Andrew Isles
113 - 115 Greville Street
Prahran 3181 Australia
Phone - - - (03) 9510 5750

Field Key for the Monsoon Rainforest Flora of the Darwin Region

R. Booth - R. K. Harwood - C. P. Mangion

Andrew Isles

01/12709

$27-00

a213869

FOL

581.994295

FIE

Field Key for the Monsoon Rainforest Flora of the Darwin Region

R. Booth - R. K. Harwood - C. P. Mangion

Published jointly by:

Northern Territory University Press

in conjunction with:

Key Centre for Tropical Wildlife Management,
Occasional Paper No. 2
Northern Territory University.

and

The Herbarium,
Parks And Wildlife Commission Of The Northern Territory,
Nothern Territory Botanical Bulletin No. **28**
Department Of Infrastructure, Planning And Environment

Darwin 2001

National Library of Australia
Cataloging-in-publication

ISBN: 1 876248 76 9

Booth, R., Harwood, R.K., Mangion, C.P., 2001. Field Key for the Monsoon Rainforest Flora of the Darwin Region. Parks and Wildlife Commission of the Northern Territory (Series: Northern Territory Botanical Bulletin; No.**28**); Key Centre for Tropical Wildlife Management, Northern Territory University (Occasional Paper No. 2).

ISSN: 0314-1810

Printer: NTUniprint, Northern Territory University

ACKNOWLEDGMENTS

Support for this project has come from Clyde Dunlop, who for the majority of this project was the curator of the Northern Territory Herbarium. His assistance and encouragement helped drive the project from it's beginings.

Thanks to Milton Andrews and Monika Osterkamp-Madsen for the illustrations, Paul Munns for helping with the cover design and map, and Darryl Heatherley for doing the typesetting. Thanks also to the many people who field tested various drafts of the key.

A series of vegetative keys developed by the University of New England for the rainforests of New South Wales and South Eastern Queensland were utilised for initial ideas on the style for the key.

Christopher P Mangion
Robert (Bob) K Harwood

Darwin Herbarium
Parks and Wildlife Commission of the Northern Territory
PO Box 496
PALMERSTON NT 0831

Ron Booth

Queensland Herbarium
Brisbane Botanic Gardens
Mt Coot-tha Road
TOOWONG QLD 4068

CONTENTS

AREA & PARKS COVERED BY KEY

Berry Springs
Nature Park 1

Casuarina Coastal
Reserve 2

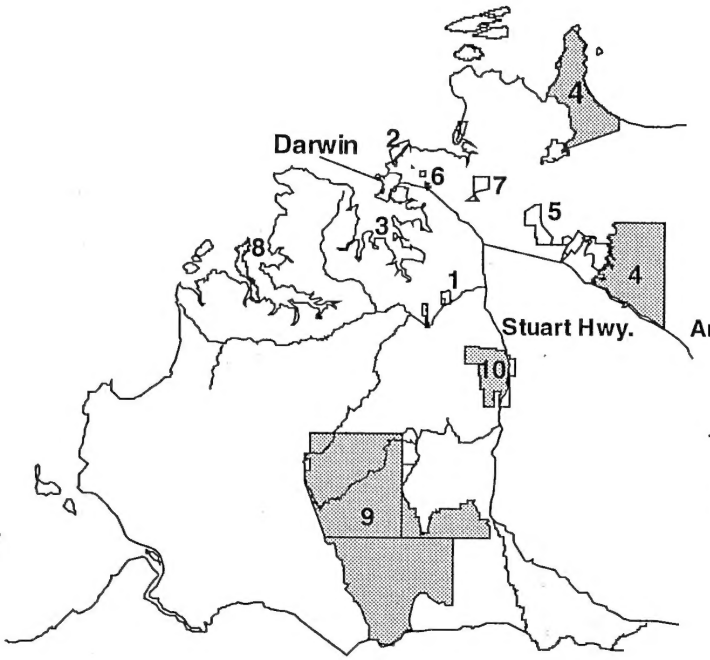
Channel Island
Conservation Reserve 3

Djukbinj
National Park 4

Fogg Dam
Conservation Reserve 5

Holmes Jungle
Nature Park 6

Howard Springs
Nature Park/Hunting Reserve 7



Indian Island
Forestry Reserve 8

Litchfield
National Park 9

Manton Dam
Recreation Area 10

N
W
E
S

Roads

00 Accessible Parks & Reserves with Significant Areas of Monsoon Forest/Thicket

0 100

Kilometres

INTRODUCTION

Throughout the key where describing the vegetation type concerned the term "Monsoon Rainforests" is used. The vegetation classification monsoon rain forests (as per Russell-Smith 1991), was decided upon as it alerts the user/reader to the overriding climatic conditions of the area and the basic vegetation type that is the focus of the key. To remove the emphasis off both rain and forest, rain forests is contracted to one word, rainforests (as per Baur 1968).

This field key began as a project to help with the identification of the native and naturalised plant species in the monsoon rainforest at East Point Reserve in Darwin, using only vegetative characters. The key was expanded to cover the monsoon rainforests of Darwin and surrounding areas, including Litchfield National Park. These monsoon rainforests contain approximately 360 plant species, all of which are covered in this key. The total number of species in all of the Northern Territory monsoon rainforests is approximately 600 species.

The key covers plant communities that vary from evergreen monsoon rainforests on springs, permanent streams and seepage areas, like those at Holmes Jungle, Berry Springs, Howard Springs and Litchfield National Park, to the deciduous and semi-deciduous thickets and forests that rely on the seasonal monsoonal rains, such as those occurring at Channel Island, East Point, Dundee Beach and Lee Point.

Plant keys generally use floral and fruiting structures to identify the different species, because floral and fruiting structures of plants are as a rule unchanging and distinctive between the species. The problem with using floral and fruiting characters is that they are often only available for a limited time period each year. The finer detailed observation of floral characters needed when using microscopes can be daunting for the novice, and impractical for use in the field. This key is designed for field and general usage. For these reasons this key concentrates on the vegetative characters of a plant, only using floral/fruit characters where we could find no other reliable means of separation. We hope this key will prove to be of value to a wide range of interested people.

Baur, G.N., (1968). The Ecological Basis of Rainforest Management. Sydney: Forestry Commission of New South Wales

Russell-Smith, J., (1991). Classification, Species Richness, and Environmental Relations of Monsoon Rainforest in Northern Australia. Journal of Vegetation Science, 2: 259-278

USING THE KEY

The 360 species covered in this book are split into 29 groups. To place your plant into the correct group use the "key to relevant group" p.7. When the specimen in question has been placed into a group, turn to the "key to species" of that group and use the key to determine which species your specimen is. The plant can then be compared to the drawings attached to the "key to species" to confirm identification. For further clarification the texts listed in the references will be useful.

We have tried to make this key as comprehensive as possible, so that any plant occurring in a monsoon rainforest within the region will be able to be identified. Introduced plants that readily propagate in the monsoon rainforests have been included. However there are areas where it was hard to draw a dividing line, such as margins and areas that have been heavily disturbed by fire, feral animals or people. These areas are often invaded by weedy shrubs, grasses and introduced trees, e.g. *Pennisetum polystachion* (Mission grass) and *Moringa oleifera* (Horseradish Tree). There are often garden plants persisting in areas of past human habitation, like Berry Springs and Holmes Jungle. These species are generally not included in this key.

Leaves may appear at the first observation to be distinctive and seem an easy identification tool, but this is not always the case. This is the reason why some species appear in more than one group. For any one species the leaves may vary greatly in size, petiole length, the degree of lobing or toothing and other features. These features may vary, even on the one plant, depending on the growing conditions, different seasons growth, juvenile and adult foilage and many other factors. These variations have to be taken into consideration when comparing your leaf with a drawing in the key, as it is impractical to include a drawing of all of the leaf variations that may exist. Due to this variation we have tried to concentrate on features that are consistent on the plants, such as leaf arrangement and the presence of stipules, latex, glands, etc.

Collecting and keying out

Some features should be looked for in the field and noted if you are collecting a specimen of the plant to key out later. First check the growth habit of the plant - is it a vine, shrub or tree. Many woody vines start life with a shrubby habit. Check for any sap or latex that may be present when you break a leaf off. Note the leaf arrangement on the plant - are the leaves opposite or alternate, is the leaf simple or is it compound, etc? Look for spines on the stems or trunk, as well as the colour of the bark and whether it is rough or smooth. Also do the leaves have any scent when crushed? All information should be noted, for the more characters noted, the easier it is to correctly identify the plant. Always try to collect both young growth and old growth, as the young growth on many plants is often hairy, while the old growth can be consistently glabrous.

Identifying the plant

Although a word and pictorial glossary has been provided, we have included the following notes on a few terms.

Compound Leaves

For use of this key, a compound leaf consists of two to many distinct leaflets forming a compound structure with a regular arrangement of these leaflets. A compound leaf is borne on a stem and a small bud (axillary bud) can often be seen in the junction where the compound leaf joins the stem. Leaflets on a compound leaf never have axillary buds.

Stipules

Stipules are accessory structures that protect buds. They are found in certain plant families. They occur where the base of the leaf petiole joins the stem, and are a reliable tool in plant identification. Usually they are small and in pairs, one on each side of the petiole base. They are usually more easily seen on new growth and are easier to see in the growing season. In the dry season when there is little growth they can be difficult to find on some species, but by using a 10 X magnification hand lens on the newer growth, the stipules or stipular scars should be visible. Stipules will usually persist for only a short time on most species but can be persistent and large on some species, *Nauclea orientalis* being a good example.

Glands

Glands of various types may occur on leaves, and are of great value in recognising certain families and genera.

Oil glands are very small, translucent dots seen by holding the leaf up towards a strong light and examining it with a hand lens. The glands will be visible as small pinpricks with the light being visible through them, and they are usually numerous.

Their presence is often confirmed by an aromatic scent when the leaf is crushed.

Vesicular glands are normally raised and coloured, like very small droplets on the leaf surface. They are often numerous on the surface of the leaf, *Mallotus nesophilus* being a good example.

Extra floral nectaries or glandular outgrowths may weep a sugary substance that attracts ants or other insects. They are usually found at the base of the blade, near the junction with the petiole on simple leaves, but on compound leaves can be seen anywhere on the rachis. They can resemble a split in the mid-vein such as in the Beach Hibiscus, *Hibiscus tiliaceus,* or small outgrowths resembling stalks or domed glands. The presence of any of these structures is usually an extremely reliable identification tool. Some species of plants can have very small glandular outgrowths in places other than as stated above, such as scattered over the leaves.

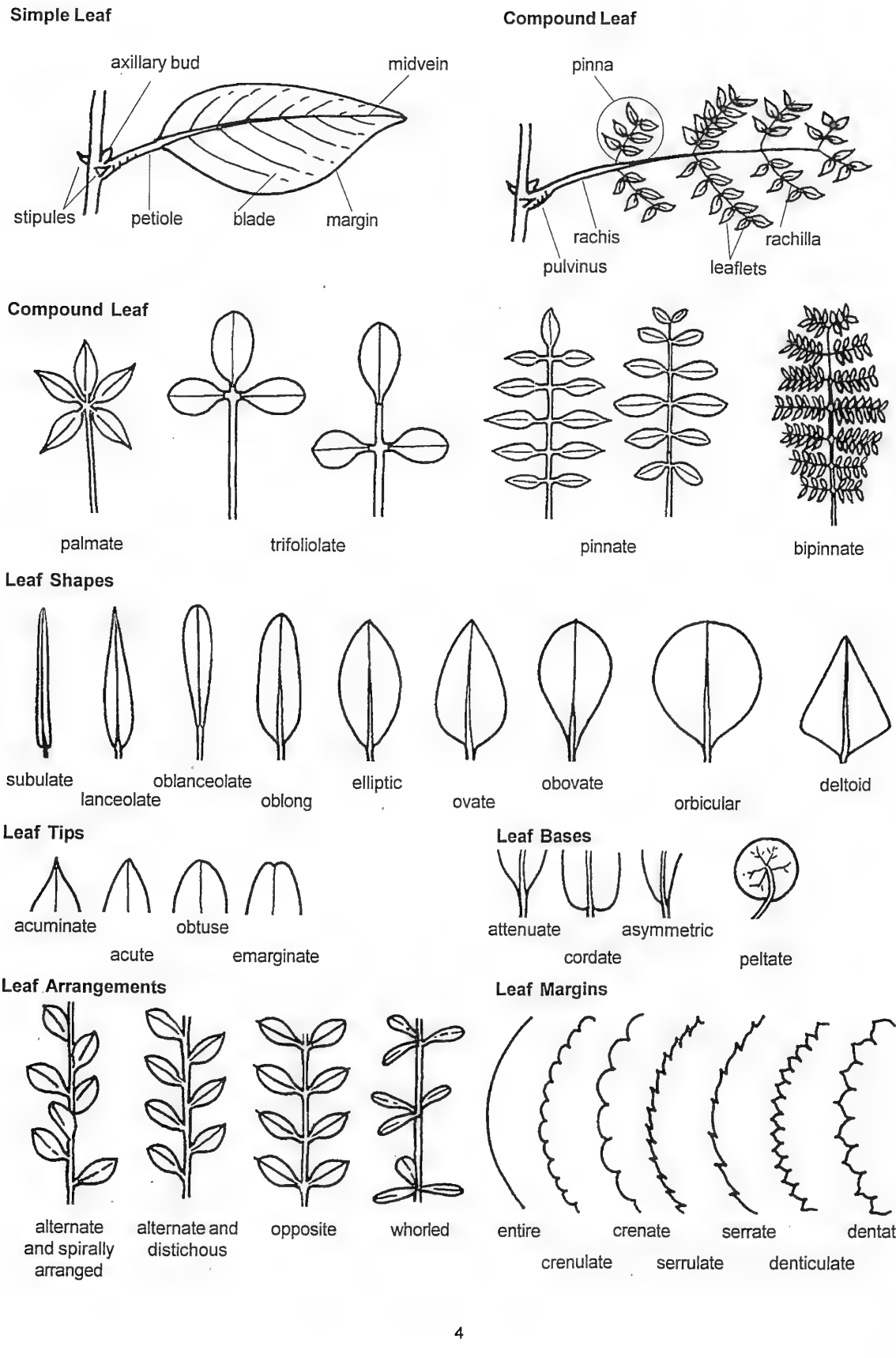
Domatia

Domatia are small distinct cavities, swellings, or hair-like tufts found in the angles between the midrib of the leaf and the main lateral veins. They are usually easier to find on the undersurface of the leaf. It is thought that they give protection to predatory mites who in turn protect the leaves from various herbivorous mites. Domatia are very well developed on *Dysoxylum acutangulum.*

Juvenile Leaves

Some plants show a marked variation between the leaves on the mature plants and on juvenile plants. One particular common variation type on juvenile trees is holly-like leaves with spines on the margins. These are fully covered in this book and can be keyed out quite easily. Other seedlings and juveniles are another matter, and it is impractical to cover all of the variations that can occur between the seedling stages and the adult plant.

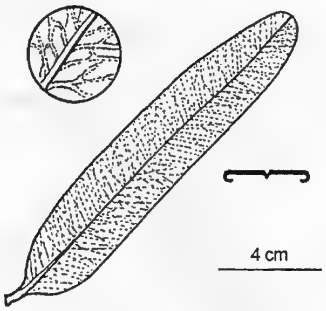
Fig. 1


Simple Leaf
axillary bud
midvein
stipules
petiole
blade
margin
Compound Leaf
pinna
rachis
rachilla
pulvinus
leaflets
Compound Leaf
palmate
trifoliolate
pinnate
bipinnate
Leaf Shapes
subulate
lanceolate
oblanceolate
oblong
elliptic
ovate
obovate
orbicular
deltoid
Leaf Tips
acuminate
obtuse
acute
emarginate
Leaf Bases
attenuate
asymmetric
cordate
peltate
Leaf Arrangements
alternate and spirally arranged
alternate and distichous
opposite
whorled
Leaf Margins
entire
crenate
serrate
dentate
crenulate
serrulate
denticulate

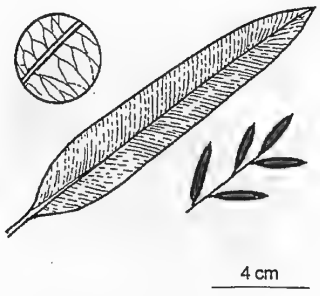
GLOSSARY

acuminate Tapering gradually to a sharp point (Fig. 1).
acute Pointed or sharp angle (Fig. 1).
alternate Any arrangement of leaves not opposite or whorled (Fig. 1).
anastomosing Venation where minor veins connect with one another.
apex Terminal point.
appressed Pressed closely against.
areole Individual spaces between the final reticulate venation.
asymmetrical In key, basal part of the leaf blade not symmetrical, ie. the two sides not a mirror image (Fig. 1)
attenuate Tapering gradually to petiole (Fig. 1).
axil Angle formed where leaf attaches to branchlet.
bipinnate Of a compound leaf, twice pinnately divided (Fig. 1).
blade The expanded part of a leaf, without the petiole.
bract Modified leaf, differing in size, shape and colour.
c., ca. About, approximately.
compound A leaf of 2 or more leaflets (see page 2).
cordate Lobed leaf bases (Fig. 1).
crenate Leaf margin with obtuse or rounded teeth (Fig. 1).
crenulate Finely crenate (Fig. 1).
deltoid Approaching the shape of a broad triangle (Fig. 1).
dentate Leaf margin with acute teeth (Fig. 1).
dichotomous Forking symmetrically, into 2 branches.
discolorous Lower leaf surface having different colour or hue to upper surface.
distichous Leaves arranged in two rows, one row on each side of branch, leaves held in one plane. (Fig. 1).
domatia Tufts of hair or cavities in the axils of the leaf veins and the mid-vein, usually on the undersurface of the blade (Fig. 1).
elliptic Oval in outline (Fig. 1).
emarginate Indented at apex (Fig. 1).
entire Leaf margin whole, not indented in any way.
epiphyte Plant unattached to the ground, so dependent on another plant for support.
extra floral nectary See glands, page 3.
falcate Sickle shaped
filiform Threadlike, long and very slender.
flexuose Of the twig when it may bend freely without breaking.
frond Leaf of a fern or palm.
glabrous Without hairs.
glands See page 3.
glaucous Blue/grey in colour, with whitish bloom.
indumentum The entire covering of hairs.
inflorescence An aggregation of flowers.
lanceolate Lance shaped; much longer than broad, widest near the base and tapering to the apex (Fig. 1).
leaflet Ultimate segment of a compound leaf (Fig. 1).
linear Long and narrow, the sides parallel or nearly so (Fig. 1).
lobed Margin indented deeply, often nearly to the mid-vein.
node Place on the stem where the new growth has or will occur.
oblanceolate The reverse of lanceolate, as a leaf broader at the top than at the middle and tapering towards base (Fig. 1).
oblong Longer than broad, and with the sides nearly parallel for most of their length (Fig. 1).
obovate Egg shaped in outline, the broader end at the top (reverse of ovate) (Fig. 1).
obtuse Leaf blunt or rounded at apex (Fig. 1).
oil glands See glands, page 3.
opposite Leaves at the same node, on opposite sides of the axis.
orbicular Circular or disc shaped (Fig. 1).
ovate Egg shaped in outline, the broader end at the base (Fig. 1).
palmate Several segments radiating from the same point (Fig. 1).
pedate Palmate lobed or divided leaf of which the 2 side lobes are again divided.
peltate Petiole attached to leaf surface within the leaf margin (Fig. 1).
penninerved Pinnately veined.
petiole The stalk of the leaf.
petiolule The stalk of a leaflet on a compound leaf.

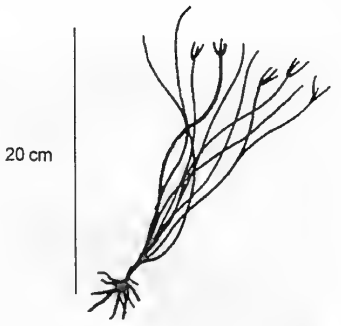
13.(11)	Fronds linear, at least 20 times longer than broad	14
13.	Fronds not linear	15
14.(13)	Plant growing on trees (occasionally on rocks)	**Vittaria ensiformis**
14.	Plant terrestrial	**Actinostachys digitata**
15.(13)	Rachis forked once or twice near base	**Adiantum hispidulum**
15.	Rachis not forked	16
16.(15)	Frond at least bipinnate	17
16.	Frond not bipinnate	19
17.(16)	Gland-like swelling where pinnae join main rachis	**Pteridium revolutum**
17.	No gland-like swelling	18
18.(17)	Frond bipinnate, pinnatifid, (ie. bipinnate then deeply lobed)	***Pityrogramma calomelanos**
18.	Frond bipinnate only	**Lindsaea ensifolia ssp. agati**
19.(16)	Shallowly lobed small brown frond at base of each deeply lobed larger green frond	**Drynaria quercifolia**
19.	Fronds not as above	20
20.(19)	Frond pinnatifid	**Microsorum grossum**
20.	Frond pinnate	21
21.(20)	Stalks of lower leaflets (pinnae) greater than 5mm long	**Adiantum philippense**
21.	Pinnae sessile or stalks less than 5mm long	22
22.(21)	Frond often creeping, rachis with buds in some pinnae axils	**Ampelopteris prolifera**
22.	No buds on rachis	23
23.(22)	Pinnae deeply serrate (greater than 1/4 of the way to the midrib)	24
23.	Pinnae entire or shallowly serrate	27
24.(23)	Each pinna lobe irregularly crenate	**Asplenium D38194**
24.	Each pinna lobe with one distinct apex	25
25.(24)	Lower pinna not reduced	**Cyclosorus interruptus**
25.	Lower 2-4 pair of pinnae much reduced in length	26
26.(25)	Underside of pinna with numerous shining glands	**Sphaerostephanos unitis**
26.	Glands not present	**Christella dentata**
27.(23)	Basal pinna much shorter than middle pinna	**Nephrolepis biserrata**
27.	Basal pinna same length as middle pinna	28
28.(27)	Plant generally greater than 1m high	29
28.	Plant generally less than 1m high	30
29.(28)	Apex of sterile pinnae gradually tapered to a point	**Acrostichum speciosum**
29.	Apex of sterile pinnae rounded, or with an abrupt point	**Acrostichum aureum**
30.(28)	Most pinnae abruptly tapering at base, sporangia (when present) along margin	**Lindsaea ensifolia ssp. ensifolia**
30.	Most pinnae gradually tapering at base, sporangia not along margin	31
31.(30)	Sporangia forming line parallel to midrib	**Taenitis blechnoides**
31.	Sporangia spreading intermittently along veins	**Taenitis pinnata**



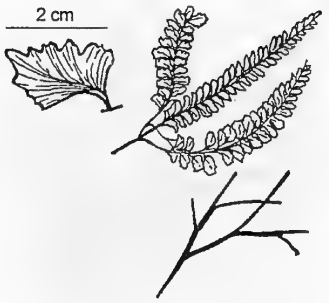
Acrostichum aureum



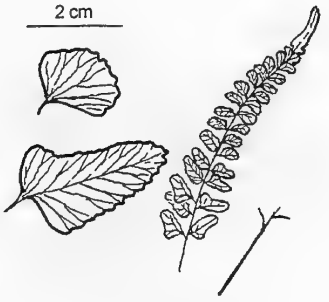
Acrostichum speciosum
(Mangrove Fern)



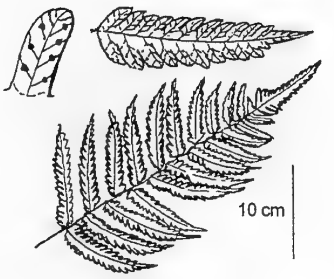
Actinostachys digitata



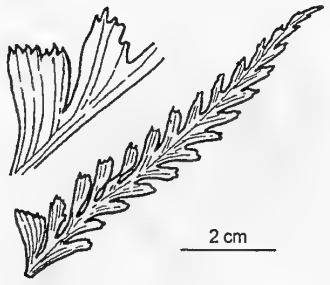
Adiantum hispidulum
(Rough Maidenhair)



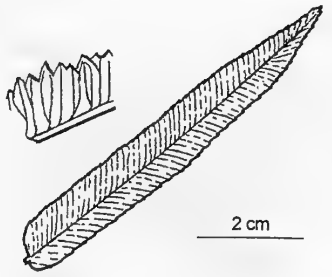
Adiantum philippense



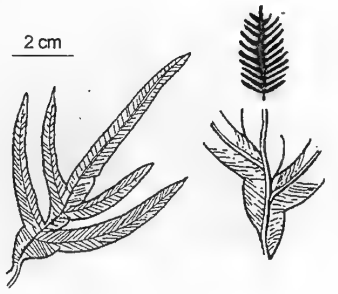
Ampelopteris prolifera



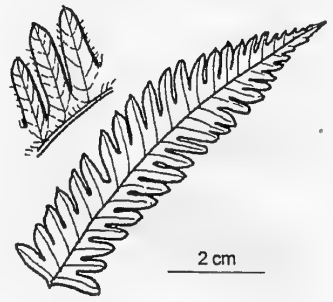
Asplenium D38194



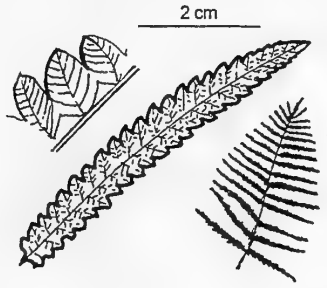
Blechnum indicum
(Swamp Water Fern)



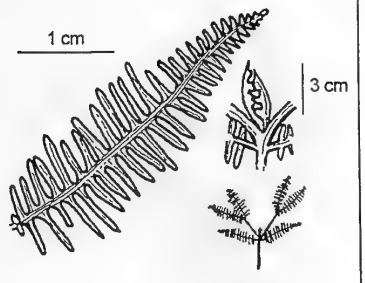
Blechnum orientale



Christella dentata



Cyclosorus interruptus



Dicranopteris linearis

phyllode	The "leaf" of most Acacias, actually being an expanded petiole.
pinna (plural pinnae)	A primary division of a compound leaf (Fig. 1).
pinnate	Compound leaf when the leaflets are arranged along the rachis (Fig. 1).
pulvinus	A swollen base of a petiole.
rachis	Primary axis of a compound leaf.
reticulate	When veins cross each other forming a network (like a net).
sedge	Plant of Cyperaceae family, grass like in habit.
serrate	Leaf margin toothed like a saw (Fig. 1).
serrulate	Finely serrate (Fig. 1)
sessile	Leaf without a petiole.
simple	A leaf when not divided into leaflets, or a hair not branched.
sporangia	Spore producing structure of a fern.
stellate	Hairs with radiating branches, appearing star shaped.
stipules	Small appendages growing on the stem at the base of the petiole (see page 2).
tendril	Coiling part of some vines used to attach vine for climbing.
terete	Smooth cylindrical and tapering towards one end.
trifoliolate	Compound leaf with 3 leaflets (Fig. 1).
truncate	Leaf squared off at apex.
tubercule	A small rounded protuberance.
unifoliolate	A compound leaf with rachis and one leaflet.
vesicular (gland)	A blister or bladder like gland on the leaf surface, usually coloured (see page 3).
viscid	Sticky on the surface: coated with syrup like secretion.
whorled	Three or more leaves at the one node (Fig. 1)

KEY TO RELEVANT GROUP

1.	Fern or fern ally	**GROUP 1**
1.	Epiphyte or aerial parasite	**GROUP 2**
1.	Palm, palm-like or bamboo (woody monocots)	**GROUP 3**
1.	Herbaceous plant other than a grass or sedge	**GROUP 4**
1.	Small shrub, at maturity generally less than 1.5m tall	**GROUP 5**
1.	Grass or grass-like (eg. sedges)	**GROUP 6**
1.	Growth habit robust shrub, tree or vine	***2***
2.(1)	Leaves compound	***3***
2.	Leaves simple, unifoliolate or absent	***6***
3.(2)	Vine	**GROUP 7**
3.	Tree or shrub	***4***
4.(3)	Leaves trifoliolate, pedate or palmate	**GROUP 8**
4.	Leaves bipinnate or occasionally tripinnate	**GROUP 9**
4.	Leaves pinnate	***5***
5. (4)	Majority of leaves terminating in a single leaflet	**GROUP 10**
5.	Majority of leaves terminating in a pair of leaflets	**GROUP 11**
6.(2)	Tree or shrub	***7***
6.	Vine	***19***
7.(6)	Leaves opposite or whorled	***8***
7.	Leaves alternate or spirally arranged	***13***
8.(7)	Leaves with numerous (greater than 100) closely spaced lateral veins	**GROUP 12**
8.	Lateral veins not closely spaced	***9***
9.(8)	Milky latex present when leaf petiole or a twig is broken	**GROUP 13**
9.	Milky latex absent when leaf petiole or twig is broken	***10***
10.(9)	Leaves with domatia, seen in axils of the lateral veins and mid vein on lower surface of leaves, as hairy tufts or hairless cavities	**GROUP 14**
10.	Leaves without domatia	***11***
11.(10)	Oil glands visible using hand lens, with transmitted light (leaves often aromatic when crushed)	**GROUP 15**
11.	Leaves with no oil glands visible	***12***
12.(11)	Leaves with a majority of petioles less than 10mm long	**GROUP 16**
12.	Leaves with a majority of petioles greater than 10mm long	**GROUP 17**
13.(7)	Milky latex present when leaf petiole or a twig is broken	**GROUP 18**
13.	Milky latex absent when leaf petiole or twig is broken	***14***
14.(13)	Leaves with the margins toothed or lobed	**GROUP 19**
14.	Leaves with fine spines on the margins (holly like)	**GROUP 20**
14.	Leaves with the margins entire	***15***
15.(14)	Extra floral nectaries or glandular outgrowths on petioles at blade base, or at base of the mid vein on the lower surface of blade	**GROUP 21**
15.	Extra floral nectaries or glandular outgrowths absent, or not as above	***16***

16.(15) Leaves with three or more major veins running from close to the base of the blade to at least half of the way to the apex ..... **GROUP 22**
16. If more than one major vein, then not reaching half way ***17***

17.(16) Leaves with domatia present in axils of leaf veins, visible as hairy tufts or hairless cavities ..... **GROUP 23**
17. Leaves with no domatia present in axils of leaf veins ***18***

18.(17) Leaves distichously arranged (ie in one plane) ..... **GROUP 24**
18. Leaves spirally arranged around the main stem ..... **GROUP 25**

19.(6) Leaves opposite, sub-opposite, or whorled ..... **GROUP 26**
19. Leaves alternate or absent ***20***

20.(19) Leaves absent or with margins toothed or lobed ..... **GROUP 27**
20. Leaves with margins entire ***21***

21.(20) Leaves with more than 1 main longitudinal vein running from base ..... **GROUP 28**
21. Leaves with only 1 main longitudinal vein running from base ..... **GROUP 29**

Introduced species are noted as follows:
** Native to Australia but introduced to area.
* Exotic species, introduced from overseas.

KEYS TO SPECIES

GROUP 1
Fern or fern ally

Acrostichum aureum	PTERIDACEAE	Lygodium flexuosum	LYGODIACEAE
Acrostichum speciosum	PTERIDACEAE	Lygodium microphyllum	LYGODIACEAE
Actinostachys digitata	SCHIZAEACEAE	Microsorum grossum	POLYPODIACEAE
Adiantum hispidulum	ADIANTACEAE	Nephrolepis biserrata	DAVALLIACEAE
Adiantum philippense	ADIANTACEAE	Ophioglossum lusitanicum	OPHIOGLOSSACEAE
Ampelopteris prolifera	THELYPTERIDACEAE	*Pityrogramma calomelanos	ADIANTACEAE
Asplenium D38194	ASPLENIACEAE	Psilotum nudum	PSILOTACEAE
Blechnum indicum	BLECHNACEAE	Pteridium revolutum	DENNSTAEDTIACEAE
Blechnum orientale	BLECHNACEAE	Schizaea dichotoma	SCHIZAEACEAE
Christella dentata	THELYPTERIDACEAE	Selaginella ciliaris	SELAGINELLACEAE
Cyclosorus interruptus	THELYPTERIDACEAE	Sphaerostephanos unitis	THELYPTERIDACEAE
Dicranopteris linearis	GLEICHENIACEAE	Stenochlaena palustris	BLECHNACEAE
Drynaria quercifolia	POLYPODIACEAE	Taenitis blechnoides	ADIANTACEAE
Helminthostachys zeylanica	OPHIOGLOSSACEAE	Taenitis pinnata	ADIANTACEAE
Lindsaea ensifolia	LINDSAEACEAE	Vittaria ensiformis	VITTARIACEAE
Lycopodiella cernua	LYCOPODIACEAE		

1. Tiny plants; stems or fronds usually less than 50mm long (not including the fertile spikes) **2**
1. Plants with stems or fronds greater than 50mm long **3**

2.(1) Plant with many tiny leaves ..... **Selaginella ciliaris**
2. Plant consisting of few fronds ..... **Ophioglossum lusitanicum**

3.(1) Much branched, with a pair of small leaflets in the junction of at least the first branch ..... **Dicranopteris linearis**
3. Not as above **4**

4.(3) All above ground stems covered with small narrow leaflets, (c. 2mm to 4mm X 0.2mm) ..... **Lycopodiella cernua**
4. Above ground stems not covered with small leaflets **5**

5.(4) Leaflets (pinnae) with numerous, (greater than 50) closely spaced lateral veins, not anastomosing **6**
5. Leaflets with few lateral veins, or, if many, then anastomosing **9**

6.(5) Plant climbing or scrambling, small gland present near base of blade ..... **Stenochlaena palustris**
6. Plant not climbing or scrambling, no gland **7**

7.(6) One whorl of 3 deeply divided leaflets near top of upright stem..... **Helminthostachys zeylanica**
7. No whorls of 3 ..... **8**

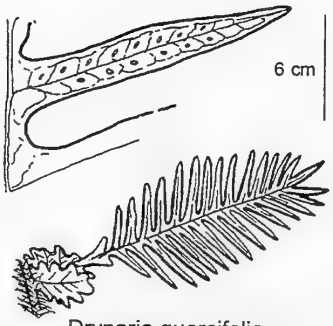
8.(7) Pinnae attached by midrib only ..... **Blechnum indicum**
8. Upper pinnae with blade base fused to rachis ..... **Blechnum orientale**

9.(5) Stems dichotomously branching many times **10**
9. Stems rarely dichotomously branching, and if so, only 2-3 times **11**

10.(9) Stems with small scale-like leaves, ultimate branches 3 sided ..... **Psilotum nudum**
10. Stems with one side convex, the other flat to concave ..... **Schizaea dichotoma**

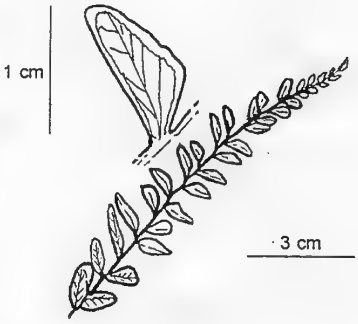
11.(9) Twining plant **12**
11. Plant not twining **13**

12.(11) Leaflet stalks shorter towards apex of the rachis ..... **Lygodium flexuosum**
12. Leaflet stalks +/- equal along the entire rachis ..... **Lygodium microphyllum**

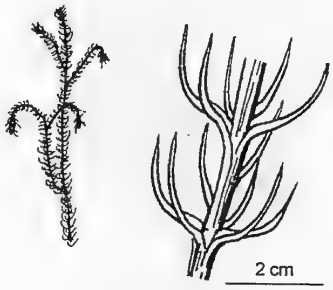


Drynaria quercifolia

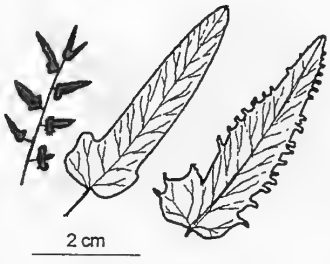
Helminthostachys zeylanica



Lindsaea ensifolia

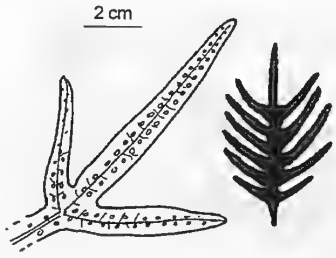


Lycopodiella cernua

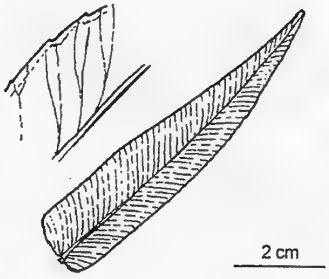


Lygodium flexuosum

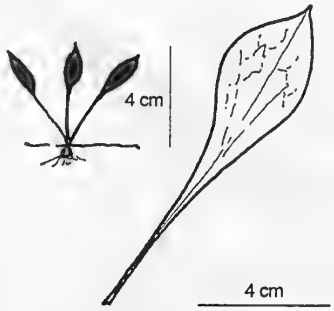
Lygodium microphyllum



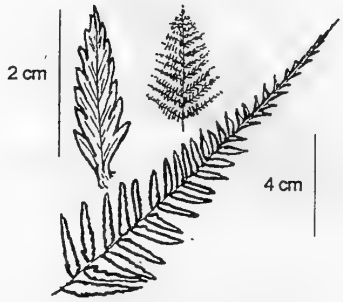
Microsorum grossum



Nephrolepis biserrata

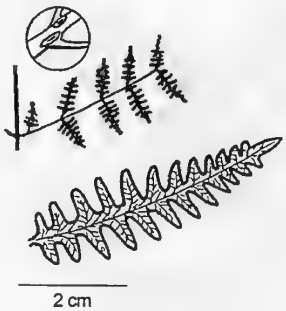


Ophioglossum lusitanicum

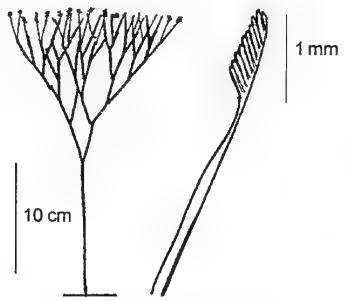


Pityrogramma calomelanos
(Silver Fern)

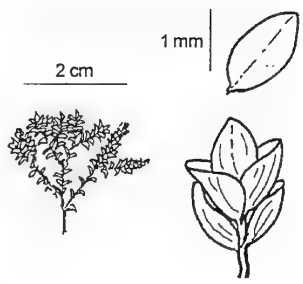
Psilotum nudum



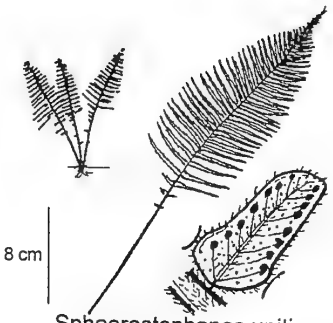
Pteridium revolutum



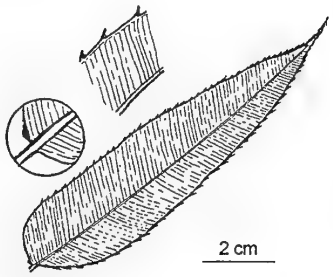
Schizaea dichotoma



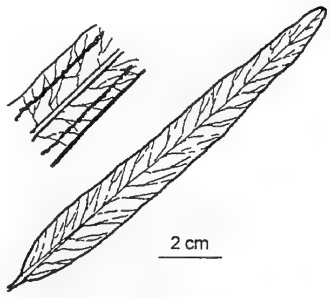
Selaginella ciliaris



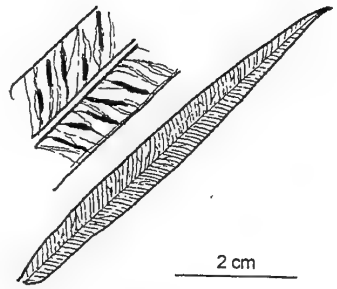
Sphaerostephanos unitis



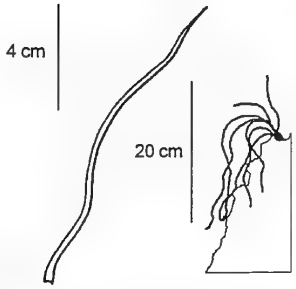
Stenochlaena palustris
(Branched Comb Fern)



Taenitis blechnoides



Taenitis pinnata



Vittaria ensiformis
(Tape Fern)

The ferns and fern allies all reproduce by spores rather than seeds. The fern allies have leaf like bracts or leaves similar to seed plants and the young segments do not unroll. The fern allies in group 1 are Lycopodiella, Psilotum and Selaginella. In true ferns, with the exception of Ophioglossum, the young segments unroll.

GROUP 2
Epiphyte or aerial parasite

Amyema haematodes	**LORANTHACEAE**	**Decaisnina signata**	**LORANTHACEAE**
Amyema villiflora	**LORANTHACEAE**	**Dendrobium affine**	**ORCHIDACEAE**
Amyema D46005	**LORANTHACEAE**	**Luisia teretifolia**	**ORCHIDACEAE**
Cassytha filiformis	**LAURACEAE**	**Viscum articulatum**	**VISCACEAE**
Chiloschista phyllorhiza	**ORCHIDACEAE**		

1. Plants leafless, or with greatly reduced leaves, (may have flattened leaf like roots) **2**
1. Plants with obvious leaves **4**

2.(1) Plant twining ..... **Cassytha filiformis**
2. Plant not twining **3**

3.(2) Long articulated stems hanging from host plant ..... **Viscum articulatum**
3. Roots flattened leaf like, stem less than 15mm long ..... **Chiloschista phyllorhiza**

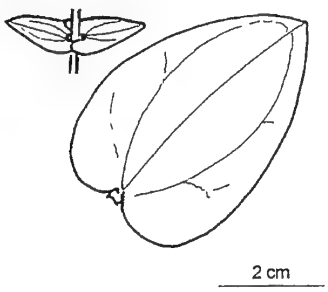
4.(1) Petioles greater than 2mm long **5**
4. Petioles less than 2mm long or sessile **6**

5.(4) Mainly parasitic on Exocarpos latifolius ..... **Amyema D46005**
5. Mainly parasitic on Terminalia & Pouteria spp ..... **Amyema villiflora**

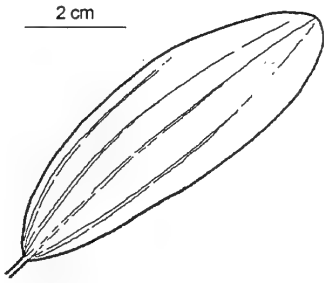
6.(4) Plant forming pseudobulbs, leaves flat with parallel venation ..... **Dendrobium affine**
6. Plant woody, leaves not as above **7**

7.(6) Leaves terete, linear, greater than 10 times longer than wide ..... **Luisia teretifolia**
7. Leaves not as above **8**

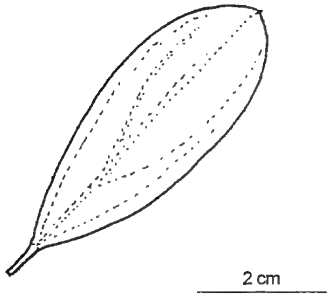
8.(7) Leaves with 1 main vein, may have short petioles ..... **Decaisnina signata**
8. Leaves with 3 main veins, pairs of leaves at same nodes with overlapping bases ..... **Amyema haematodes**



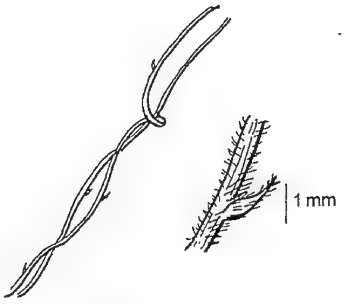
Amyema haematodes
(Mistletoe)



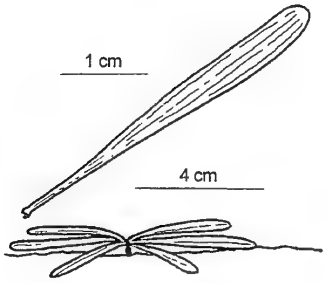
Amyema villiflora
(Mistletoe)



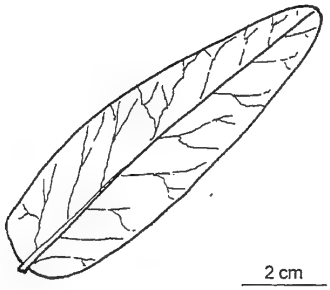
Amyema D46005
(Mistletoe)



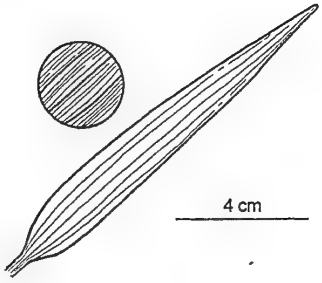
Cassytha filiformis
(Dodder Laurel)



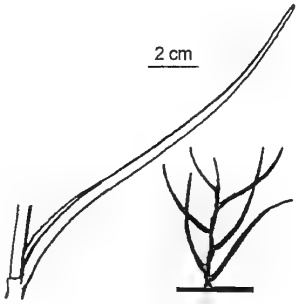
Chiloschista phyllorhiza



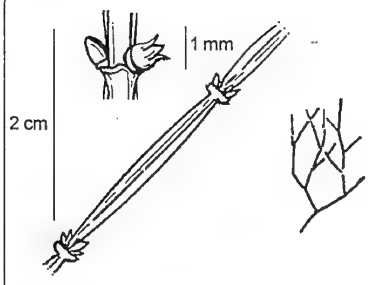
Decaisnina signata
(Mistletoe)



Dendrobium affine
(Tree Orchid)



Luisia teretifolia



Viscum articulatum
(Mistletoe)

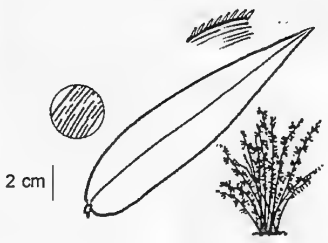
GROUP 3

Palm, palm-like or bamboo i.e. woody monocots

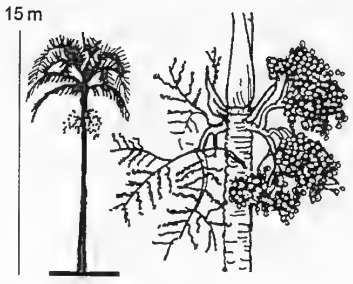
Arenga australasica	ARECACEAE	**Pandanus aquaticus**	PANDANACEAE
Bambusa arnhemica	POACEAE	**Pandanus spiralis**	PANDANACEAE
Carpentaria acuminata	ARECACEAE	***Phoenix dactylifera**	ARECACEAE
***Caryota mitis**	ARECACEAE	***Phoenix sylvestris**	ARECACEAE
Hydriastele wendlandiana	ARECACEAE	**Ptychosperma macarthurii**	ARECACEAE
Livistona benthamii	ARECACEAE		

1.	Growth form clumping bamboo	**Bambusa arnhemica**
	(Other Bambusa spp. are occasionally found as remnant plantings)	
1.	Growth form palm or palm-like	**2**
2.(1)	Leaves simple, spirally arranged, bearing thorns on margins	**3**
2.	Leaves compound (pinnate, bipinnate or palmate)	**4**
3.(2)	Plants growing only on watercourses, fruit segments free, less than 15mm diameter	**Pandanus aquaticus**
3.	Plants growing in seasonally saturated areas, fruit segments in clusters, clusters greater than 30mm diameter	**Pandanus spiralis**
4.(2)	Leaves bipinnate or palmate	**5**
4.	Leaves pinnate	**6**
5.(4)	Leaves bipinnate	***Caryota mitis**
5.	Leaves palmate	**Livistona benthamii**
6.(4)	Basal leaflets developed as spines	**7**
6.	Basal leaflets not sharp or spiny	**8**
7.(6)	Mature fruit less than 30mm long	***Phoenix sylvestris**
7.	Mature fruit greater than 30mm long	***Phoenix dactylifera**
8. (6)	Mature palm single stemmed	**Carpentaria acuminata**
8.	Mature palm clumping	**9**
9.(8)	Adult stems greater than 15cm diameter	**Arenga australasica**
9.	Adult stems less than 15cm diameter	**10**
10.(9)	Terminal leaflets united, greater than 50mm wide	**Hydriastele wendlandiana**
10.	Terminal leaflets not united	**Ptychosperma macarthurii**

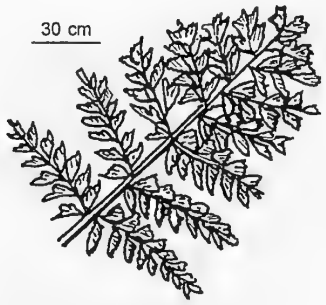
Arenga australasica



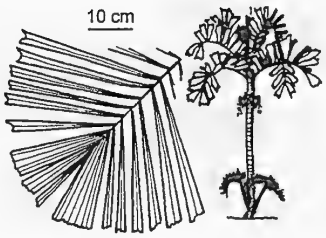
Bambusa arnhemica



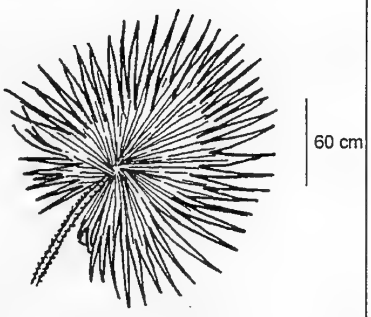
Carpentaria acuminata



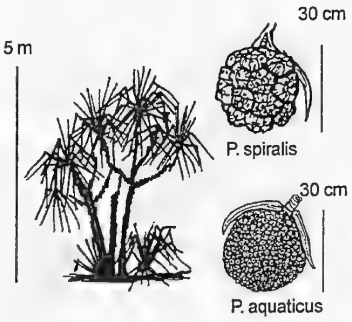
*Caryota mitis
(Clumping Fishtail Palm)



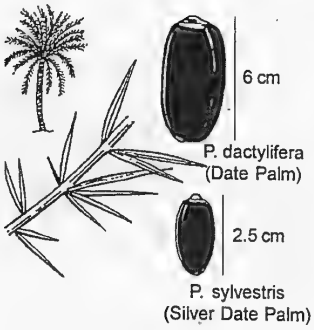
Hydriastele wendlandiana



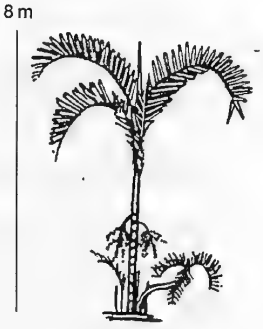
Livistona benthamii



Pandanus



*Phoenix



Ptychosperma macarthurii
(Macarthurs Palm)

GROUP 4

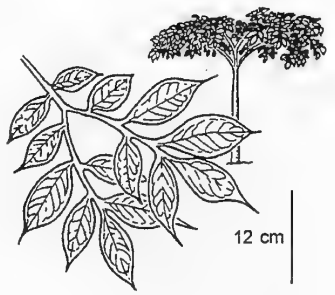
Herbaceous plant other than a grass or sedge

Amorphophallus galbra	ARACEAE	**Malaxis marsupichila**	ORCHIDACEAE
Amorphophallus paeoniifolius	ARACEAE	**Nervilia aragoana**	ORCHIDACEAE
Colocasia esculenta	ARACEAE	**Nervilia holochila**	ORCHIDACEAE
Curcuma australasica	ZINGIBERACEAE	**Nervilia plicata**	ORCHIDACEAE
Elephantopus scaber	ASTERACEAE	***Sansevieria trifasciata**	AGAVACEAE
Geodorum neocaledonicum	ORCHIDACEAE	**Tacca leontopetaloides**	TACCACEAE
Habenaria hymenophylla	ORCHIDACEAE	**Typhonium flagelliforme**	ARACEAE
Hanguana malayana	HANGUANACEAE	**Zeuxine oblonga**	ORCHIDACEAE
Malaxis acuminata	ORCHIDACEAE		

1.	Leaves compound or lobed	2
1.	Leaves simple	4
2.(1)	Stem with fine longitudinal ridges, hollow	**Tacca leontopetaloides**
2.	Stem not longitudinally ridged, mottled patchy cream/green	3
3.(2)	Stem smooth to touch or with smooth bumps	**Amorphophallus galbra**
3.	Stem with coarse bumps, rough to touch	**Amorphophallus paeoniifolius**
4.(1)	Plant rhizomatous, 0.5m - 2m tall; occasionally 2.5m, tips acute	5
4.	Not as above	6
5.(4)	Strap like leaves mottled green	***Sansevieria trifasciata**
5.	Strap like leaves not mottled	**Hanguana malayana**
6.(4)	Plant with only one leaf	7
6.	Plant with more than one leaf	10
7.(6)	Leaves with 1 main vein	**Typhonium flagelliforme**
7.	Leaves with greater than 1 main vein	8
8.(7)	Upper leaf surface hairy	**Nervilia plicata**
8.	Upper leaf surface glabrous	9
9.(8)	Leaves deltoid with a cordate base	**Nervilia aragoana**
9.	Leaves ovate with a rounded base	**Nervilia holochila**
10.(6)	Leaves greater than 150mm long	11
10.	Leaves less than 150mm long	13
11.(10)	Leaves pleated (slightly folded between veins)	**Geodorum neocaledonicum**
11.	Leaves not pleated	12
12.(11)	Leaves heart shaped, 9-30cm wide	**Colocasia esculenta**
12.	Leaves not heart shaped, less than 15cm wide	**Curcuma australasica**
13.(10)	Leaves pleated (slightly folded between veins)	**Geodorum neocaledonicum**
13.	Leaves not pleated	14
14.(13)	Leaves forming a rosette, dentate margins	**Elephantopus scaber**
14.	All petiole sheaths overlapping	15
14.	Always some petiole sheaths not overlapping	17
15.(14)	Leaves with reticulate venation	**Typhonium flagelliforme**
15.	Leaves with parallel venation	16

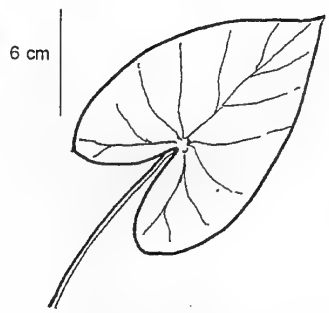
16.(15) Flowers green ..... **Malaxis acuminata**
16. Flowers purple ..... **Malaxis marsupichila**

17.(14) Lower leaves reduced to bracts ..... **Habenaria hymenophylla**
17. Lower leaves normal, petiole sheaths membranous ..... **Zeuxine oblonga**



Amorphophallus galbra
(Cheeky Yam)

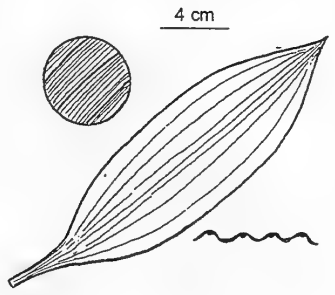
Amorphophallus paeoniifolius
(Cheeky Yam)



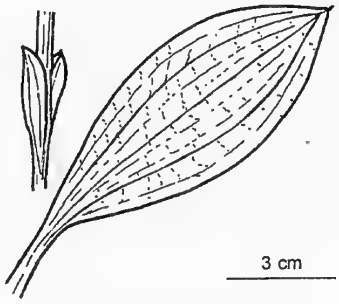
Colocasia esculenta
(Taro)

Curcuma australasica
(Wild Turmeric)

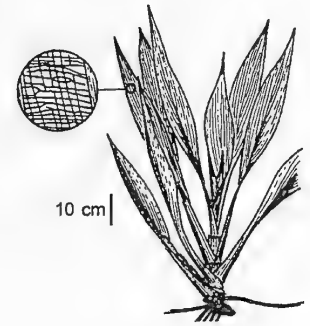
Elephantopus scaber



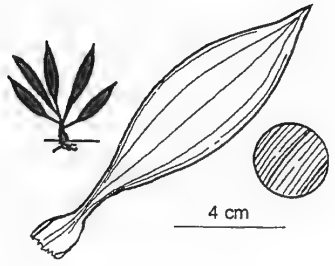
Geodorum neocaledonicum
(Pink Nodding Orchid)



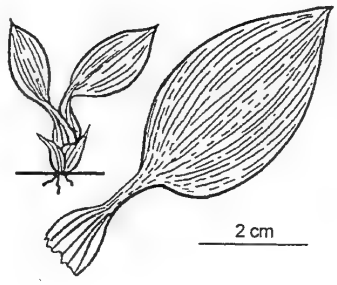
Habenaria hymenophylla
(Rainforest Habenaria)



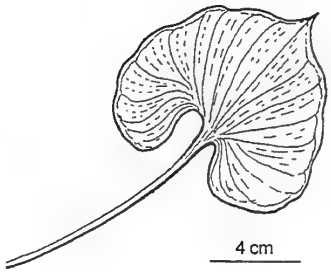
Hanguana malayana



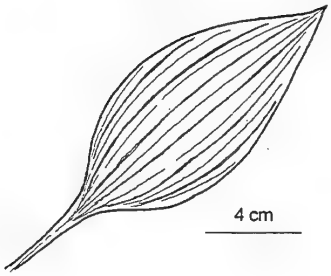
Malaxis acuminata



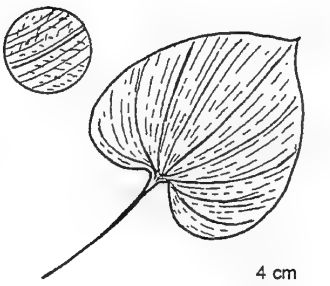
Malaxis marsupichila



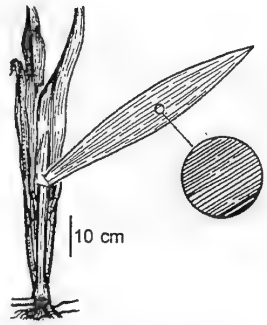
Nervilia aragoana



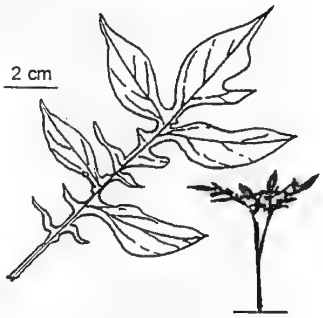
Nervilia holochila



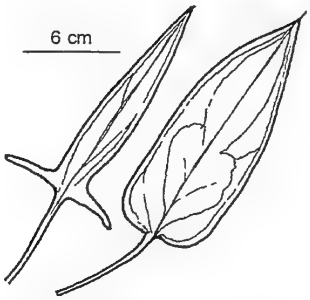
Nervilia plicata



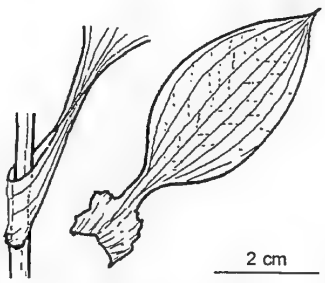
*Sansieveria trifasciata
(Mother in laws' tongue)



Tacca leontopetaloides



Typhonium flagelliforme



Zeuxine oblonga

GROUP 5
Small shrub, less than 1.5m tall

Abutilon indicum	**MALVACEAE**	***Lantana camara**	**VERBENACEAE**
Achyranthes aspera	**AMARANTHACEAE**	***Leonotis nepetifolia**	**LAMIACEAE**
Adenostemma lavenia	**ASTERACEAE**	**Plumbago zeylanica**	**PLUMBAGINACEAE**
***Andrographis paniculata**	**ACANTHACEAE**	**Pseuderanthemum variabile**	**ACANTHACEAE**
***Barleria lupulina**	**ACANTHACEAE**	***Stachytarpheta australis**	**VERBENACEAE**
***Barleria prionitis**	**ACANTHACEAE**	***Stachytarpheta cayennensis**	**VERBENACEAE**
Hypoestes floribunda	**ACANTHACEAE**	***Stachytarpheta jamaicensis**	**VERBENACEAE**
***Indigofera tinctoria**	**FABACEAE**	**Urena lobata**	**MALVACEAE**

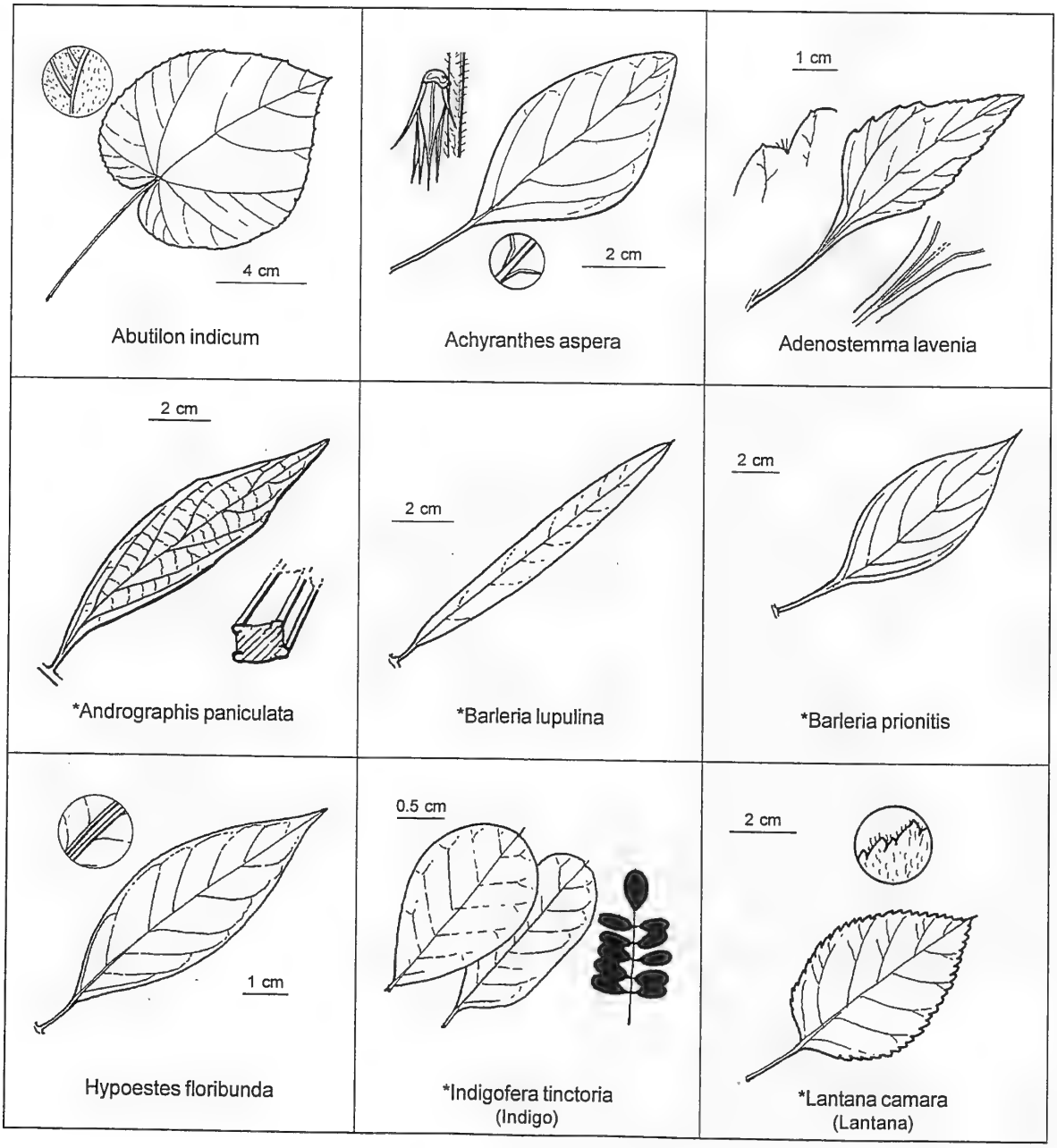
1.	Leaves pinnately compound	***Indigofera tinctoria**
1.	Leaves not as above	2
2.(1)	Leaves alternate	3
2.	Leaves opposite	5
3.(2)	Mid-vein on under surface of blade with a slit near the base	**Urena lobata**
3.	Mid-vein with no slit near the base	4
4.(3)	Petiole stem clasping	**Plumbago zeylanica**
4.	Petiole not stem clasping	**Abutilon indicum**
5.(2)	Thorns present on stem at base of petioles	6
5.	Thorns not present	7
6.(5)	Blade greater than 5 times longer than wide	***Barleria lupulina**
6.	Blade less than 5 times longer than wide	***Barleria prionitis**
7.(5)	Leaf margins entire	8
7.	Leaf margins serrate	11
8.(7)	Under surface of leaves densely hairy, velvety to touch	**Achyranthes aspera**
8.	Under surface of leaves glabrous or only sparsely hairy	9
9.(8)	Stems in upper half of plants distinctly 4 ribbed; sharp to touch	***Andrographis paniculata**
9.	Stems not as above	10
10.(9)	Mid vein on upper leaf surface 2-ribbed	**Hypoestes floribunda**
10.	Mid vein on upper leaf surface not 2 ribbed	**Pseuderanthemum variabile**
11.(7)	Pairs of leaves joined at base of petiole on new growth, appears as a scar on older growth	12
11.	Pairs of leaves not joined	13
12.(11)	Leaves 3 veined from base	**Adenostemma lavenia**
12.	Leaves with 1 main vein from base	**Hypoestes floribunda**
13.(11)	Under surface of leaves hairy, soft to touch	14
13.	Under surface of leaves glabrous	16
14.(13)	Stems with longitudinal grooves on each of 4 sides	***Leonotis nepetifolia**
14.	Stems not grooved	15

15.(14) Leaf blade gradually tapering into petiole, thus giving sessile appearance ..... ***Stachytarpheta australis***

15. Leaves distinctly petiolate ..... ***Lantana camara***

16.(13) Leaves membranous, bracts less than 5mm, shorter than calyx ..... ***Stachytarpheta cayennensis***

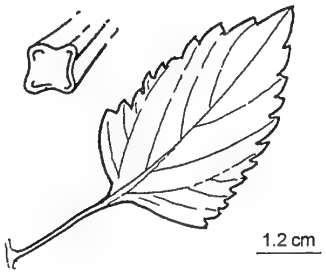
16. Leaves fleshy, bracts, longer than calyx, greater than 5mm long ..... ***Stachytarpheta jamaicensis***



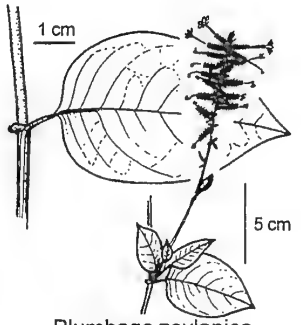
Abutilon indicum | Achyranthes aspera | Adenostemma lavenia

*Andrographis paniculata | *Barleria lupulina | *Barleria prionitis

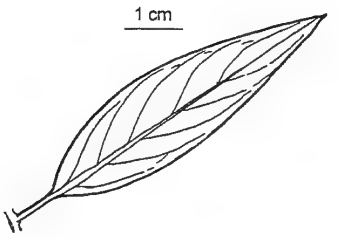
Hypoestes floribunda | *Indigofera tinctoria (Indigo) | *Lantana camara (Lantana)



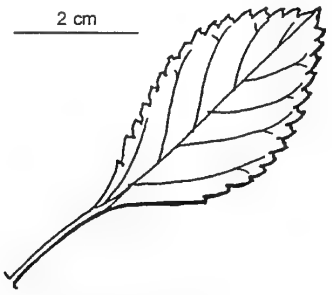
*Leonotis nepetifolia
(Lions Tail)



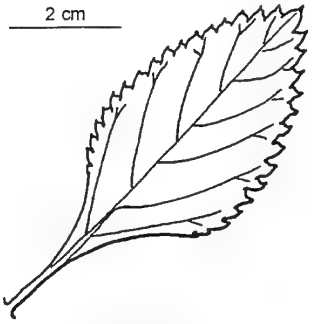
Plumbago zeylanica



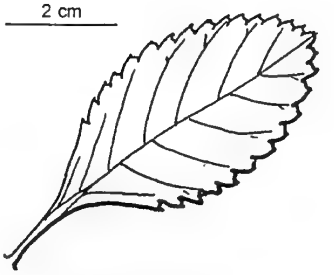
Pseuderanthemum variabile



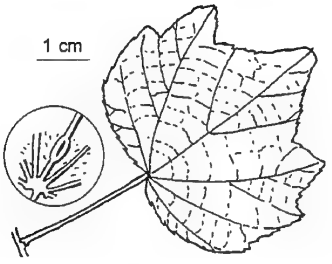
*Stachytarpheta australis
(Snakeweed)



*Stachytarpheta cayennensis
(Snakeweed)



*Stachytarpheta jamaicensis
(Snakeweed)



Urena lobata

The 3 Stachytarpheta species covered here are often difficult to differentiate, their diagnostic features overlapping.

GROUP 6
Grass or grass-like

Oplismenus burmanni	**POACEAE**	**Scleria lingulata**	**CYPERACEAE**
Oplismenus compositus	**POACEAE**	**Scleria lithosperma**	**CYPERACEAE**
Panicum trichoides	**POACEAE**	**Scleria polycarpa**	**CYPERACEAE**
Scleria brownii	**CYPERACEAE**		

1. Stem distinctly 3 sided **2**
1. Stem not 3 sided **5**

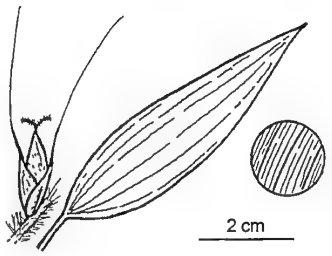
2.(1) Leaves on central part of stem paired (opposite or sub-opposite), or in whorls of 3 ..... **Scleria polycarpa**
2. Leaves not paired or whorled **3**

3.(2) Stem greater than 3mm wide ..... **Scleria lingulata**
3. Stem less than 3mm wide **4**

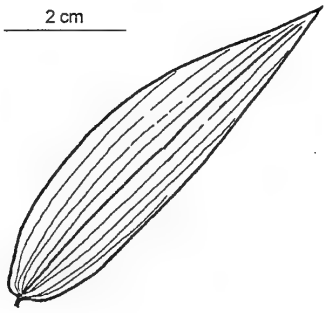
4.(3) Plant glaucous, triangular appendage at top of leaf sheath, nut smooth ..... **Scleria lithosperma**
4. Plant not glaucous, leaf sheath truncate, nut not smooth ..... **Scleria brownii**

5.(1) Tubercle based hairs on leaf sheath ..... **Panicum trichoides**
5. Leaf sheath lacking tubercle based hairs **6**

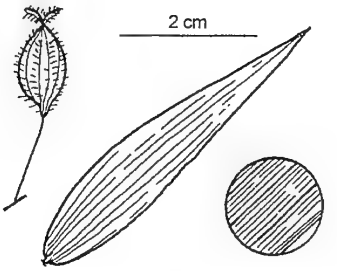
6.(5) Basal racemes greater than 40mm long ..... **Oplismenus compositus**
6. Basal racemes less than 40mm long ..... **Oplismenus burmanni**



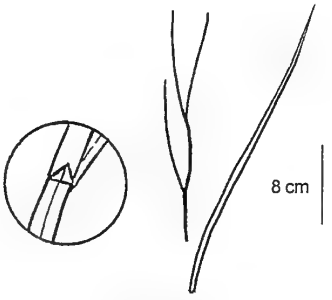
Oplismenus burmanni



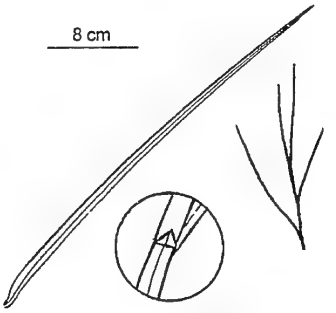
Oplismenus compositus



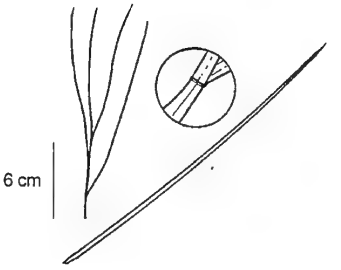
Panicum trichoides



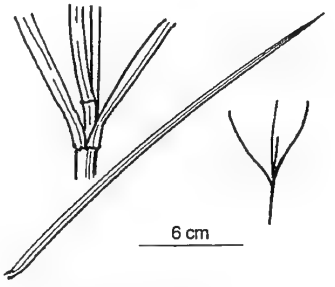
Scleria brownii



Scleria lingulata



Scleria lithosperma



Scleria polycarpa

Plants of the family Cyperaceae are often called sedges, they are often confused with grasses (family Poaceae). Some of the sedges have triangular stems, which immediately distinguishes them from grasses, but other sedges don't have triangular stems. A number of sedges occurring on rainforest margins have not been included in this key.

GROUP 7

Vine, leaves compound

Abrus precatorius	**FABACEAE**	**Clematis pickeringii**	**RANUNCULACEAE**
Ampelocissus acetosa	**VITACEAE**	***Clitoria ternatea**	**FABACEAE**
Caesalpinia bonduc	**CAESALPINIACEAE**	**Dalbergia candenatensis**	**FABACEAE**
Canavalia papuana	**FABACEAE**	**Jasminum didymum**	**OLEACEAE**
Canavalia rosea	**FABACEAE**	**Mucuna gigantea**	**FABACEAE**
Cayratia acris	**VITACEAE**	**Mucuna reptans**	**FABACEAE**
Cayratia maritima	**VITACEAE**	**Rhynchosia australis**	**FABACEAE**
Cayratia trifolia	**VITACEAE**	**Rhynchosia minima**	**FABACEAE**
***Centrosema molle**	**FABACEAE**		

1. Leaves bipinnate ..... **Caesalpinia bonduc**
1. Leaves pinnate, trifoliolate or pedate **2**

2.(1) Majority of leaves pinnate **3**
2. Majority of leaves trifoliolate or pedate **5**

3.(2) Leaves terminating in a pair of leaflets ..... **Abrus precatorius**
3. Leaves terminating in a single leaflet **4**

4.(3) Leaflets alternate, stems woody ..... **Dalbergia candenatensis**
4. Leaflets opposite, herbaceous twiner ..... ***Clitoria ternatea**

5.(2) Majority of leaves pedate or palmate ..... **Ampelocissus acetosa**
5. Majority of leaves trifoliate **6**

6.(5) Leaflets with greater than 1 main vein, or with other major venation running greater than ¾ of way to apex from base (margins sometimes with serrations) .... **Clematis pickeringii**
6. Leaflets with 1 main vein, or with other major venation running less than ¾ of way to apex from base **7**

7.(6) Tendrils present, opposite the leaves **8**
7. No tendrils **10**

8.(7) Majority of terminal leaflets greater than 100mm long ..... **Cayratia acris**
8. Majority of terminal leaflets less than 100mm long **9**

9.(8) Tendrils 4 to 5-fid, adhesive disks at apices ..... **Cayratia trifolia**
9. Tendrils 3-fid, no adhesive disks ..... **Cayratia maritima**

10.(7) Prostrate vine, rooting at nodes, coastal habitats ..... **Canavalia rosea**
10. Plant not as above **11**

11.(10) Leaves opposite or sub-opposite ..... **Jasminum didymum**
11. Leaves alternate **12**

12.(11) Majority of leaflets greater than 60mm x 40mm; a woody climbing vine **13**
12. Majority of leaflets less than 60mm x 40mm; a non woody climbing vine **15**

13.(12) Stipules absent from the leaflets ..... **Canavalia papuana**
13. Linear stipules present at the base of each leaflet **14**

14.(13) Lower surface of leaves with a dense indumentum of +/- appressed white simple hairs ..... **Mucuna reptans**

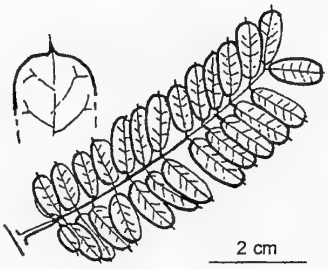
14. Lower surface of leaves with scattered stiff simple hairs ..... **Mucuna gigantea**

15.(12) Leaflets with no vesicular glands present ..... ***Centrosema molle**

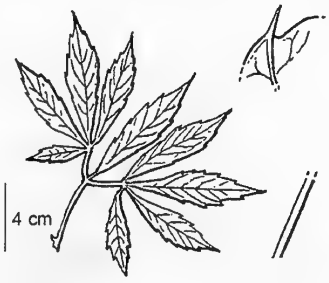
15. Leaflets with red or yellow vesicular glands on under surface **16**

16.(15) Leaflets hairy, apex of terminal leaflet obtuse ..... **Rhynchosia minima**

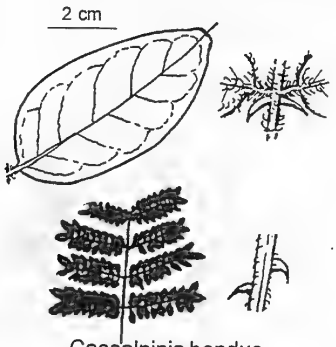
16. Leaflets +/- glabrous, apex of terminal leaflet acuminate ..... **Rhynchosia australis**



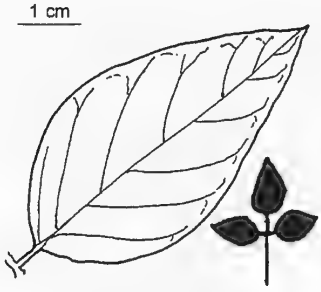
Abrus precatorius
(Crabs Eye Vine)



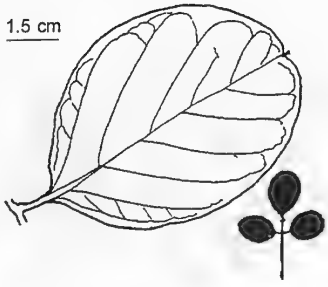
Ampelocissus acetosa
(Wild Grape)



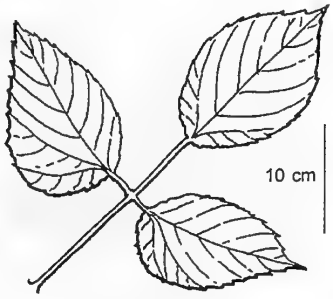
Caesalpinia bonduc



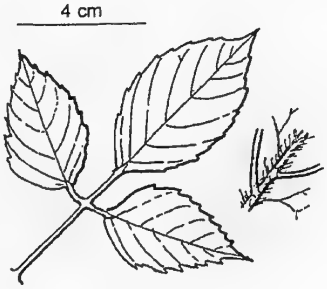
Canavalia papuana



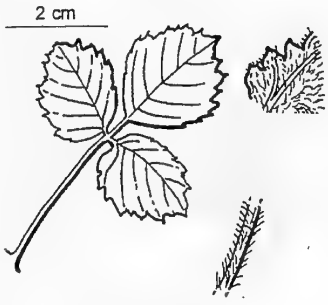
Canavalia rosea



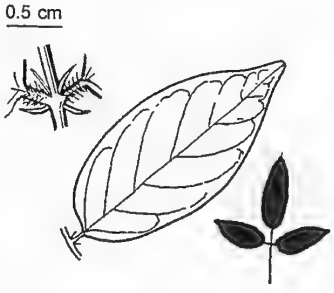
Cayratia acris



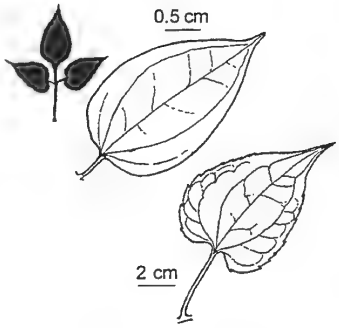
Cayratia maritima



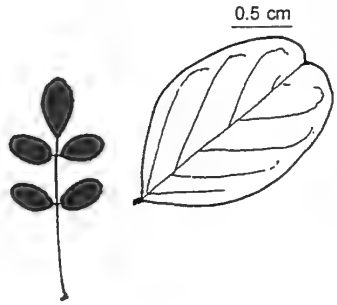
Cayratia trifolia



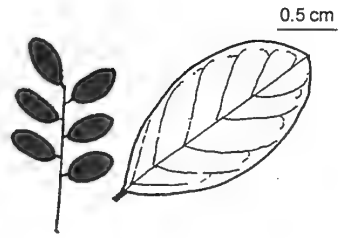
*Centrosema molle
(Centro)



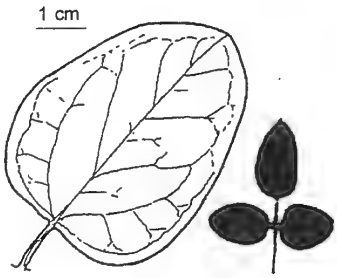
Clematis pickeringii



*Clitoria ternatea
(Blue Pea)

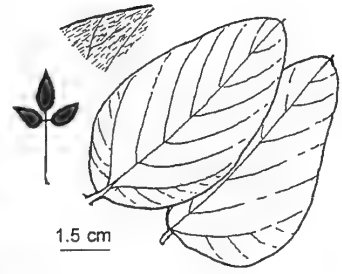


Dalbergia candenatensis



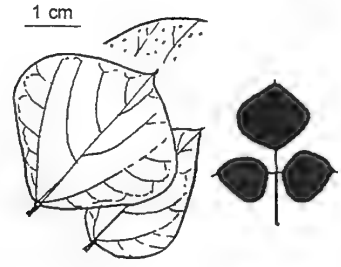
Jasminum didymum

Mucuna gigantea



Mucuna reptans

Rhynchosia australis



Rhynchosia minima

GROUP 8

Tree or shrub, leaves trifoliolate, pedate or palmate

Allophylus cobbe	**SAPINDACEAE**	**Melicope elleryana**	**RUTACEAE**
Bombax ceiba	**BOMBACACEAE**	**Schefflera actinophylla**	**ARALIACEAE**
***Crateva adansonii ssp. axillaris**	**CAPPARACEAE**	**Vitex acuminata**	**VERBENACEAE**
Glycosmis trifoliata	**RUTACEAE**	**Vitex glabrata**	**VERBENACEAE**

1. Margins of leaflets serrate ..... **Allophylus cobbe**
1. Margins of leaflets entire **2**

2.(1) Oil glands visible on leaflets **3**
2. Oil glands not visible on leaflets **4**

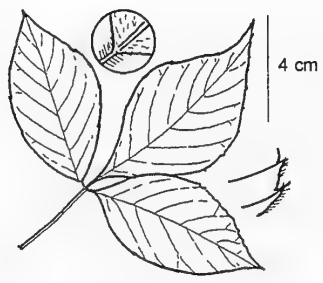
3.(2) Lateral leaflets opposite ..... **Melicope elleryana**
3. Lateral leaflets mostly alternate ..... **Glycosmis trifoliata**

4.(2) Leaves alternate, or spirally arranged **5**
4. Leaves opposite **7**

5.(4) Leaves trifoliolate ..... ***Crateva adansonii ssp. axillaris**
5. Leaves pedate or palmate **6**

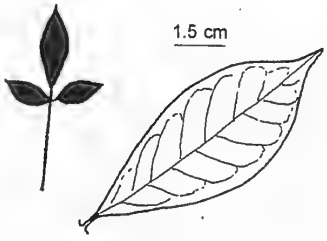
6.(5) Large stem-clasping stipule attached to petiole base ..... **Schefflera actinophylla**
6. Stipules caducous ..... **Bombax ceiba**

7.(4) Leaflets broadly ovate or rounded, sometimes elliptic, often with domatia ..... **Vitex glabrata**
7. Leaflets elliptic, tip acuminate; domatia not present ..... **Vitex acuminata**

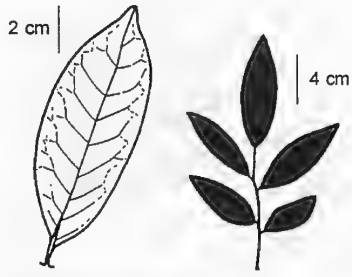


Allophylus cobbe

Bombax ceiba
(Kapok Tree)

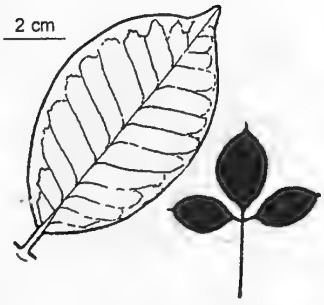


*Crateva adansonii ssp. axillaris

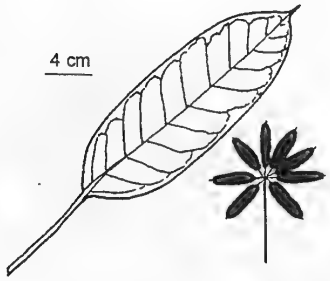


Leaves rarely simple.

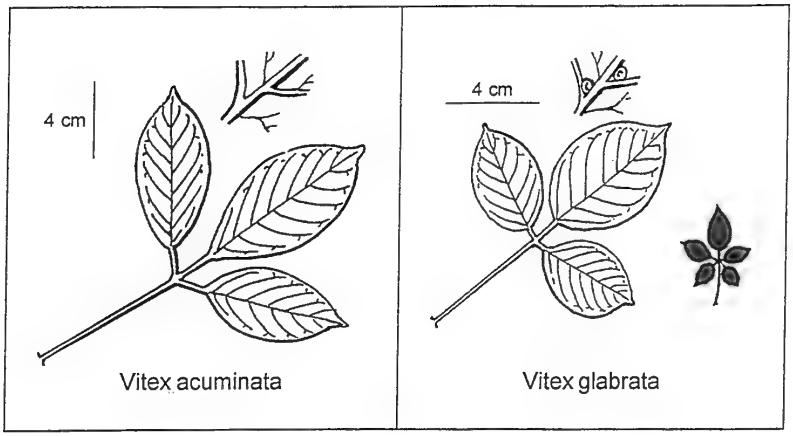
Glycosmis trifoliata



Melicope elleryana



Schefflera actinophylla
(Umbrella Tree)

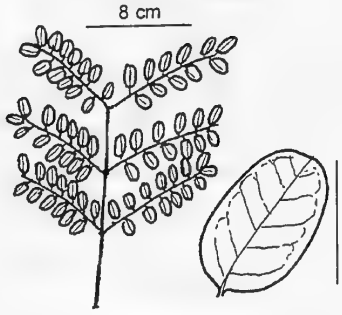

4 cm
Vitex acuminata
4 cm
Vitex glabrata

GROUP 9

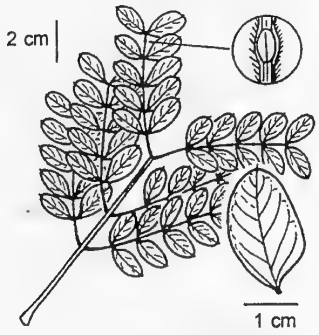
Tree or shrub, leaves bipinnate

Adenanthera pavonina	**MIMOSACEAE**	**Erythrophleum chlorostachys**	**CAESALPINIACEAE**
Albizia canescens	**MIMOSACEAE**	**Leea indica**	**LEEACEAE**
Albizia lebbeck	**MIMOSACEAE**	**Leea rubra**	**LEEACEAE**
Caesalpinia bonduc	**CAESALPINIACEAE**	***Leucaena leucocephala**	**MIMOSACEAE**
Cathormion umbellatum	**MIMOSACEAE**	****Melia azedarach**	**MELIACEAE**
***Delonix regia**	**CAESALPINIACEAE**	**Peltophorum pterocarpum**	**CAESALPINIACEAE**

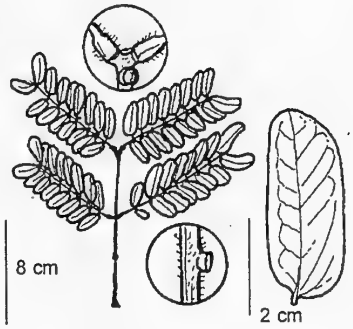
1.	Scrambling shrub, thorns prominent on stems	**Caesalpinia bonduc**
1.	Thorns absent	**2**
2.(1)	Leaflets alternate	**3**
2.	Leaflets opposite	**4**
3.(2)	Leaflets less than 10 per pinna, greater than 20mm wide	**Erythrophleum chlorostachys**
3.	Leaflets greater than 10 per pinna, less than 20mm wide	**Adenanthera pavonina**
4.(2)	Pinnae rachis terminates in a single leaflet	**5**
4.	Pinnae rachis terminates in a pair of leaflets	**7**
5.(4)	Each individual leaflet less than 6.5cm long	****Melia azedarach**
5.	Each individual leaflet greater than 6.5cm long, often more than 20cm	**6**
6.(5)	Stipular scar running greater than 1/2 length of rachis	**Leea rubra**
6.	Stipular scar less than 1/2 of the length of the rachis	**Leea indica**
7.(4)	Glands on petiole or rachis	**8**
7.	No glands	**11**
8.(7)	Gland located closer to base of petiole than 1st pair of pinnae	**9**
8.	Glands not closer to base	**10**
9.(8)	Small glands near each node of terminal 4 pair of pinnae	**Albizia lebbeck**
9.	Above glands not present	**Albizia canescens**
10.(8)	Circular glands at junction of all pinnae	**Cathormion umbellatum**
10.	Prominent gland near junction of 1st pair of pinnae only	***Leucaena leucocephala**
11.(7)	Indumentum and new growth coppery	**Peltophorum pterocarpum**
11.	Indumentum and new growth white or hyaline	***Delonix regia**



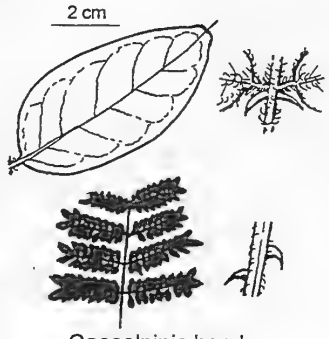
Adenanthera pavonina
(Red Bead Tree)



Albizia canescens
(Womans Tongue)

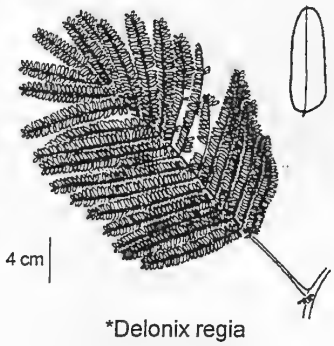


Albizia lebbeck
(Womans Tongue, White Sirus)

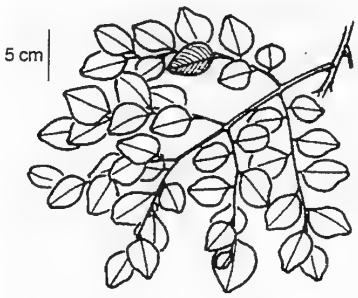


Caesalpinia bonduc

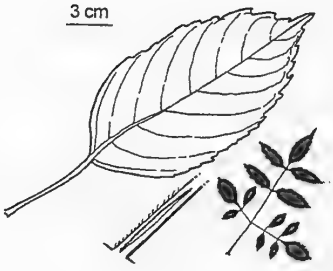
Cathormion umbellatum



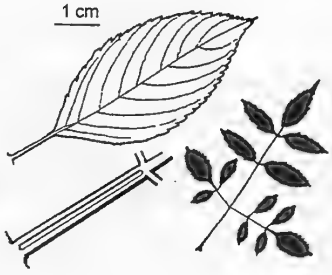
*Delonix regia
(Poinciana)



Erythrophleum chlorostachys
(Ironwood)

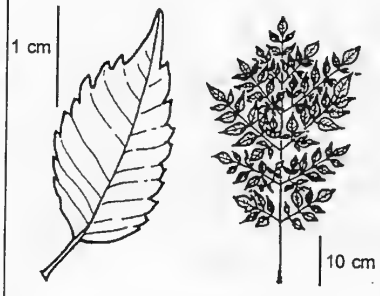


Leea indica

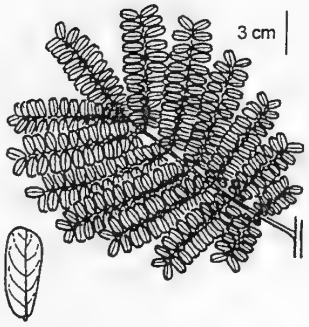


Leea rubra

*Leucaena leucocephala
(Coffee Bush)



**Melia azedarach
(White Cedar)



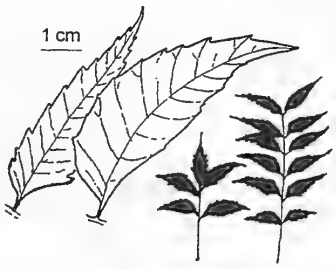
Peltophorum pterocarpum
(Yellow Flame Tree)

GROUP 10

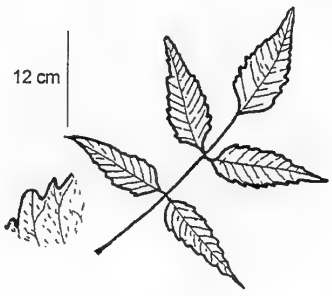
Tree or shrub, pinnate leaves terminating in a single leaflet

*Azadirachta indica	MELIACEAE	Glycosmis trifoliata	RUTACEAE
Brucea javanica	SIMAROUBACEAE	Leea indica	LEEACEAE
Canarium australianum	BURSERACEAE	Leea rubra	LEEACEAE
Cupaniopsis anacardioides	SAPINDACEAE	Micromelum minutum	RUTACEAE
*Dalbergia sissoo	FABACEAE	Pongamia pinnata	FABACEAE
Dysoxylum acutangulum	MELIACEAE	*Spathodea campanulata	BIGNONIACEAE
Dysoxylum latifolium	MELIACEAE	Zanthoxylum parviflorum	RUTACEAE
Ganophyllum falcatum	SAPINDACEAE		

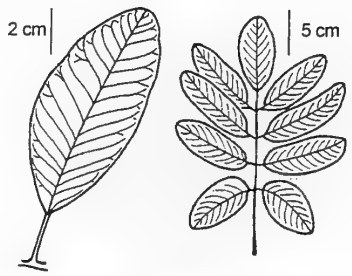
1.	Leaves with oil glands	2
1.	Leaves without oil glands	4
2.(1)	Number of leaflets per leaf less than 7	**Glycosmis trifoliata**
2.	Number of leaflets per leaf greater than 7	3
3.(2)	Leaflets alternate	**Micromelum minutum**
3.	Leaflets opposite, glands in sinus of each serration	**Zanthoxylum parviflorum**
4.(1)	Leaflets with prominent domatia along mid-vein on the underside of leaf blade	**Dysoxylum acutangulum**
4.	Leaflets without domatia	5
5.(4)	Base of each leaflet stalk with a distinct globular pulvinus where it joins the rachis	**Cupaniopsis anacardioides**
5.	Base of leaflets without a globular pulvinus	6
6.(5)	Majority of leaflet bases distinctly asymmetrical	7
6.	Majority of leaflet bases symmetrical	10
7.(6)	Leaflets with serrate margins	***Azadirachta indica**
7.	Leaflets margins entire	8
8.(7)	2 or 3 glands near base of leaflet blades	***Spathodea campanulata**
8.	No glands visible	9
9.(8)	Much reduced rachis continuing for short distance beyond terminal leaflet node	**Ganophyllum falcatum**
9.	Rachis not extended	**Dysoxylum latifolium**
10.(6)	Gland at apex of each serration on lower leaf surface	**Brucea javanica**
10.	No glands visible	11
11.(10)	Leaf rachis with prominent stipular scar on upper surface	12
11.	No stipular scar	13
12.(11)	Stipular scar running full length of petiole	**Leea rubra**
12.	Stipular scar running less than 1/4 the length of petiole	**Leea indica**
13.(11)	Leaflets alternate	***Dalbergia sissoo**
13.	Leaflets opposite or sub-opposite	14
14.(13)	Compound leaf axis grooved on upper surface	**Pongamia pinnata**
14.	Axis not grooved	15
15.(14)	Leaflets mostly greater than 9 per leaf, hairs present on surface	**Canarium australianum**
15.	Leaflets less than 9 per leaf, leaflets glabrous	**Dysoxylum latifolium**



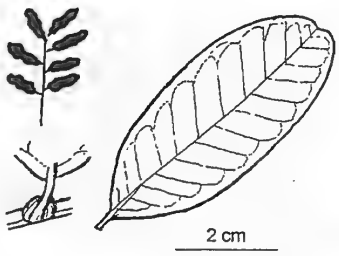
*Azadirachta indica
(Neem Tree)



Brucea javanica

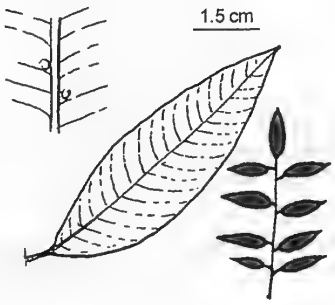


Canarium australianum

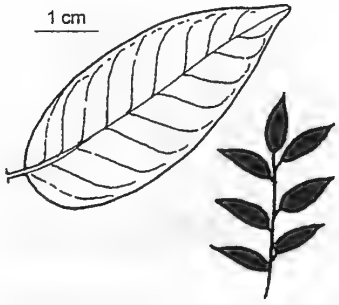


Cupaniopsis anacardioides

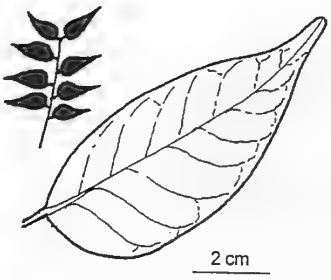
*Dalbergia sissoo



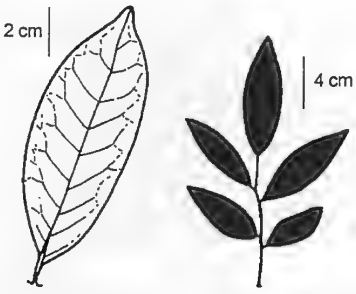
Dysoxylum acutangulum



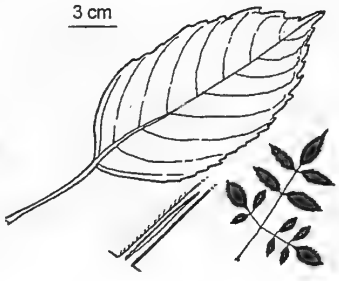
Dysoxylum latifolium



Ganophyllum falcatum

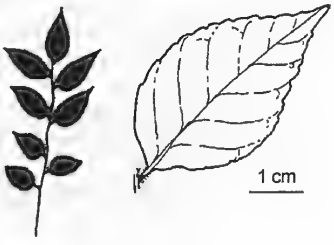


Glycosmis trifoliata

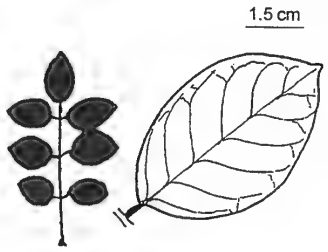


Leea indica

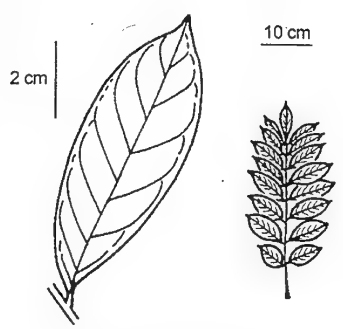
Leea rubra



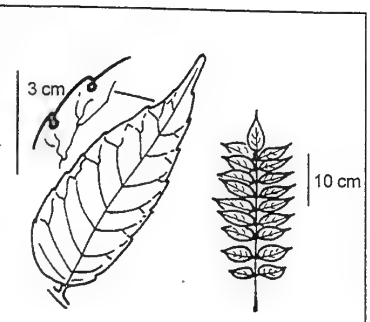
Micromelum minutum



Pongamia pinnata



*Spathodea campanulata
(African Tulip Tree)



Zanthoxylum parviflorum

GROUP 11

Tree or shrub, pinnate leaves terminating in a pair of leaflets

***Azadirachta indica**	MELIACEAE	**Lysiphyllum binatum**	CAESALPINIACEAE
***Cassia fistula**	CAESALPINIACEAE	**Senna surattensis**	CAESALPINIACEAE
Dysoxylum acutangulum	MELIACEAE	**Sesbania formosa**	FABACEAE
Ganophyllum falcatum	SAPINDACEAE	***Tamarindus indica**	CAESALPINIACEAE
***Khaya senegalensis**	MELIACEAE	**Xylocarpus moluccensis**	MELIACEAE

1. Leaflets 2 in number, reniform in shape ..... **Lysiphyllum binatum**
1. Leaflets more than 2 in number shape not reniform **2**

2. (1) Leaflets with prominent domatia in pairs beside mid-vein on lower surface of leaf ..... **Dysoxylum acutangulum**
2. Leaflets with no domatia present **3**

3.(2) Leaflets asymmetrical **4**
3. Leaflets symmetrical **6**

4.(3) Leaflets less than 26mm long, less than 10mm wide ..... ***Tamarindus indica**
4. Leaflets not as above **5**

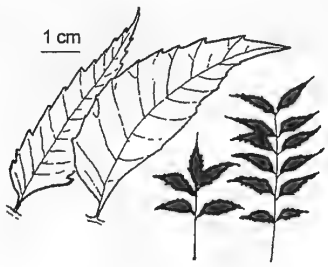
5.(4) Leaflets serrate ..... ***Azadirachta indica**
5. Most leaflets entire ..... **Ganophyllum falcatum**

6.(3) Clavate glands between lower 2-4 pairs of leaflets ..... **Senna surattensis**
6. No glands **7**

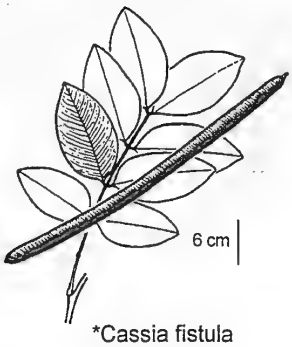
7.(6) Leaves with greater than 8 pairs of leaflets ..... **Sesbania formosa**
7. Leaves with less than 8 pairs of leaflets **8**

8.(7) Number of main lateral veins on either side of mid-rib greater than 15 ..... ***Cassia fistula**
8. Number of main lateral veins on either side of mid-rib less than 15 ..... **9**

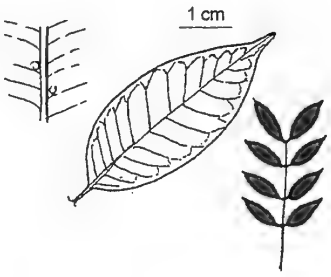
9.(8) Petiolules brown ..... **Xylocarpus moluccensis**
9. Petiolules white ..... ***Khaya senegalensis**



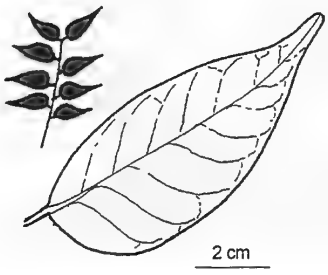
*Azadirachta indica
(Neem Tree)



*Cassia fistula
(Golden Shower)

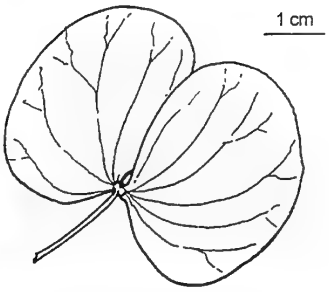


Dysoxylum acutangulum

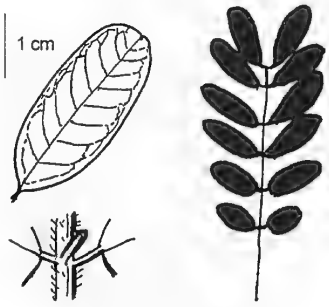


Ganophyllum falcatum

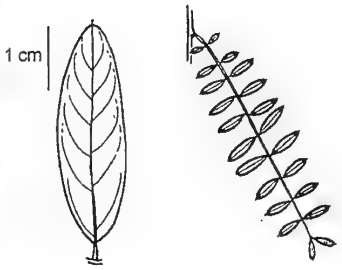
*Khaya senegalensis
(African Mahogany)



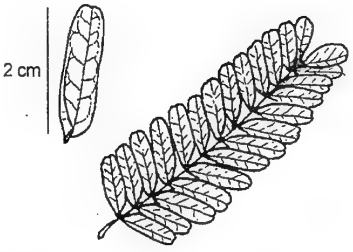
Lysiphyllum binatum
(Bauhinia)



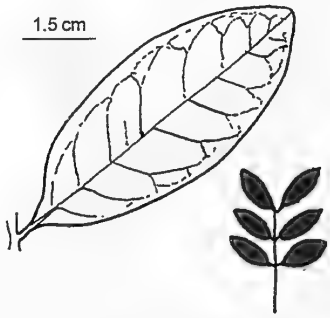
Senna surattensis



Sesbania formosa



*Tamarindus indica
(Tamarind)



Xylocarpus moluccensis
(Cedar Mangrove)

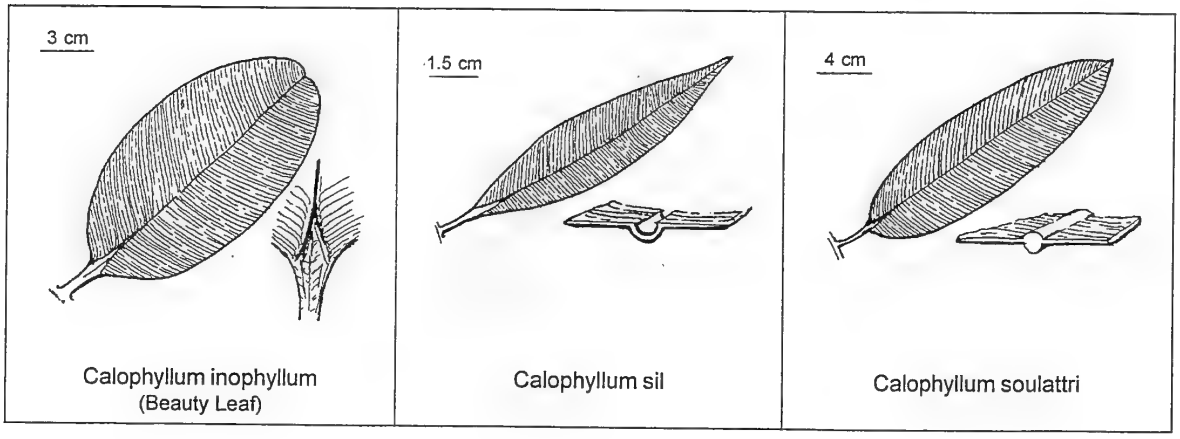
GROUP 12

Tree or shrub, opposite simple leaves, lateral veins numerous, (greater than 100)

Calophyllum inophyllum	**CLUSIACEAE**	**Calophyllum soulattri**	**CLUSIACEAE**
Calophyllum sil	**CLUSIACEAE**		

1. Upper mid-rib raised on most of lamina ..... **Calophyllum soulattri**
1. Mid-rib depressed on bottom third of lamina **2**

2.(1) Blade less than 2.5 times longer than wide ..... **Calophyllum inophyllum**
2. Blade greater than 2.5 times longer than wide ..... **Calophyllum sil**



Calophyllum inophyllum
(Beauty Leaf)

Calophyllum sil

Calophyllum soulattri

GROUP 13

Tree or shrub, opposite or whorled simple leaves, milky sap

Alyxia spicata	APOCYNACEAE	**Ficus opposita**	MORACEAE
Alstonia actinophylla	APOCYNACEAE	**Ficus scobina**	MORACEAE
****Alstonia scholaris**	APOCYNACEAE	**Tabernaemontana orientalis**	APOCYNACEAE
Ficus hispida	MORACEAE	**Wrightia pubescens**	APOCYNACEAE

1. Leaves whorled **2**
1. Leaves not whorled **4**

2.(1) Scrambling shrub ..... **Alyxia spicata**
2. Tree **3**

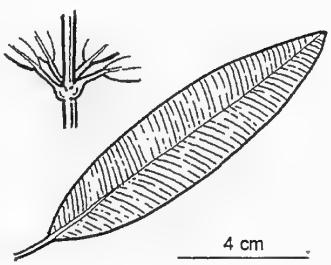
3.(2) Bark pale and corky, majority of leaves less than 20mm wide ..... **Alstonia actinophylla**
3. Bark brownish, not corky, majority of leaves greater than 20mm wide ..... ****Alstonia scholaris**

4.(1) Leaves sandpapery or rough to touch (use mature growth) **5**
4. Leaves smooth or silky to the touch (use mature growth) **7**

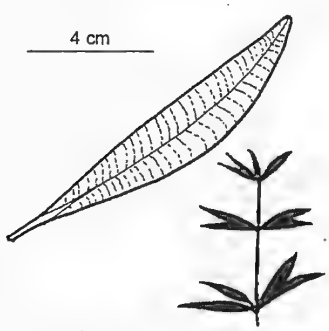
5.(4) Stems centre hollow, petioles hairy ..... **Ficus hispida**
5. Stems not hollow, petioles not hairy **6**

6.(5.) Bark rough, dark and deeply fissured, leaves usually ovate ..... **Ficus opposita**
6. Bark not rough, grey and fibrous, leaves usually obovate ..... **Ficus scobina**

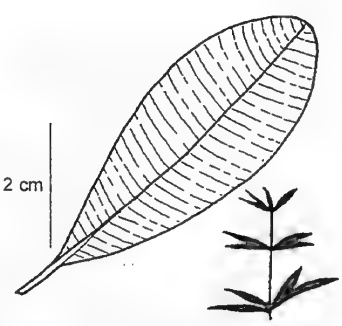
7.(4) Leaves in irregular or spirally arranged pairs ..... **Tabernaemontana orientalis**
7. Leaves arranged on one plane, giving the impression of having compound leaves ..... **Wrightia pubescens**



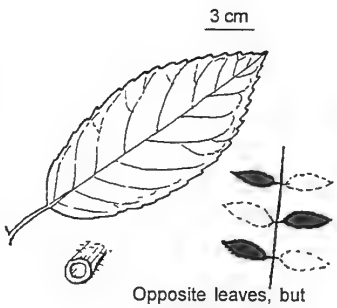
Alyxia spicata



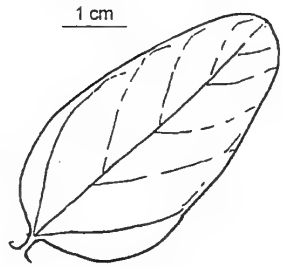
Alstonia actinophylla
(Milkwood)



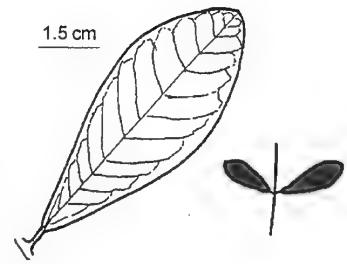
**Alstonia scholaris
(Cheesewood)



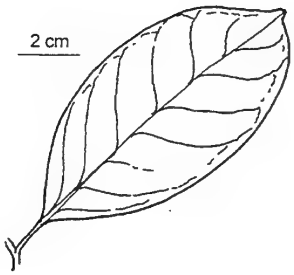
Ficus hispida



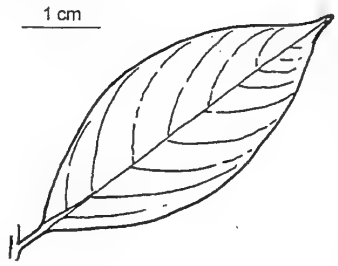
Ficus opposita
(Sandpaper Fig)



Ficus scobina
(Sandpaper Fig)



Tabernaemontana orientalis



Wrightia pubescens

GROUP 14

Tree or shrub, opposite simple leaves, domatia present

Aidia racemosa	RUBIACEAE	**Premna odorata**	VERBENACEAE
Canthium D55656	RUBIACEAE	**Premna serratifolia**	VERBENACEAE
Cyclophyllum schultzii	RUBIACEAE	**Psychotria nesophila**	RUBIACEAE
Guettarda speciosa	RUBIACEAE	**Tarenna dallachiana**	RUBIACEAE
Ixora pentamera	RUBIACEAE	**Timonius timon**	RUBIACEAE
Morinda citrifolia	RUBIACEAE		

1. Stipules or stipular scars absent on all growth **2**
1. Stipules or stipular scars present at least on new growth **3**

2.(1) Leaves hairy ..... **Premna odorata**
2. Leaves glabrous ..... **Premna serratifolia**

3.(1) Every 2nd node with one poorly developed leaf often looking like a stipule ..... **Aidia racemosa**
3. Not as above **4**

4.(3) Leaf base slightly cordate ..... **Guettarda speciosa**
4. Leaf base truncate to attenuate **5**

5.(4) Terminal stipules hairy, long and linear, branchlets and leaves hairy, leaves narrowly elliptic ..... **Timonius timon**
5. Terminal stipules not linear or hairy, leaves not narrowly elliptic **6**

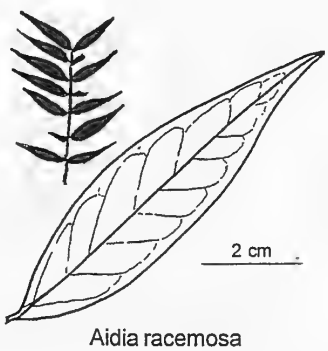
6.(5) Stipules large, apex rounded ..... **Morinda citrifolia**
6. Stipule apex not rounded **7**

7.(6) Domatia surrounded by tufts of hair **8**
7. Domatia with no tufts of hair; forming cavities where the mid-vein joins the lateral veins **10**

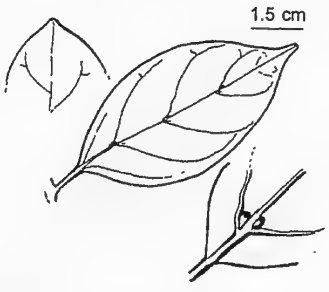
8.(7) Petiole not grooved on upper surface ..... **Psychotria nesophila**
8. Petiole grooved on upper surface **9**

9.(8) Leaves usually hairy on lower surface ..... **Tarenna dallachiana**
9. Leaves usually glabrous ..... **Ixora pentamera**

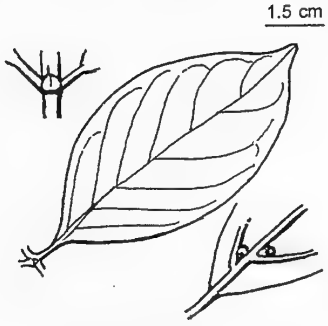
10.(7) Groove in upper mid-vein, leaves bend without breaking ..... **Cyclophyllum schultzii**
10. No groove in upper mid-vein, leaves stiff, crack when bent ..... **Canthium D55656**



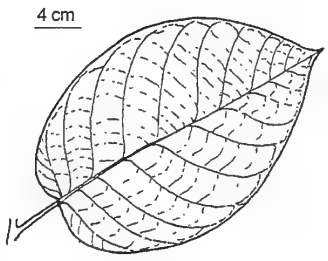
Aidia racemosa



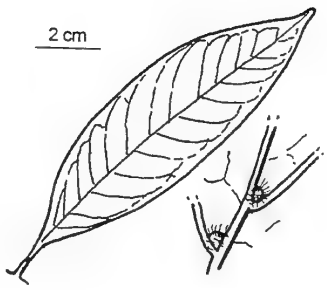
Canthium D55656



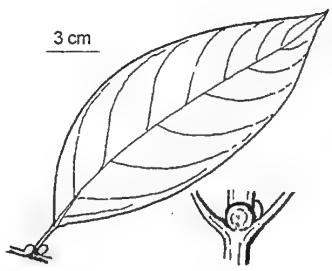
Cyclophyllum schultzii



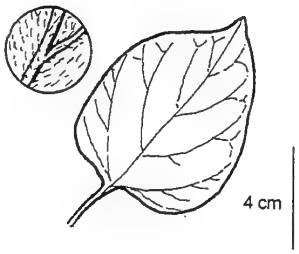
Guettarda speciosa



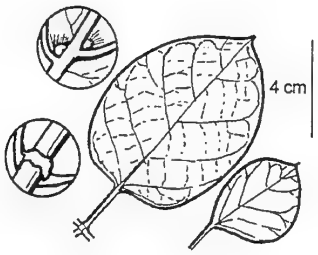
Ixora pentamera



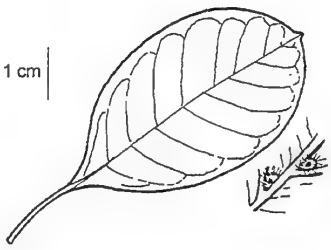
Morinda citrifolia
(Rotten Cheesefruit)



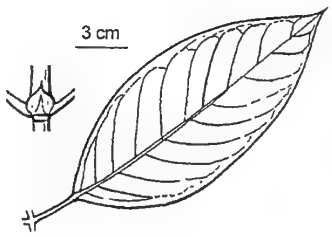
Premna odorata



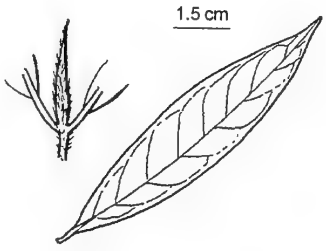
Premna serratifolia



Psychotria nesophila



Tarenna dallachiana



Timonius timon

GROUP 15

Tree or shrub, opposite simple leaves, oil dots visible

Memecylon pauciflorum	**MELASTOMATACEAE**	**Syzygium minutuliflorum**	**MYRTACEAE**
Syzygium angophoroides	**MYRTACEAE**	**Syzygium nervosum**	**MYRTACEAE**
Syzygium armstrongii	**MYRTACEAE**	**Syzygium suborbiculare**	**MYRTACEAE**
Syzygium forte	**MYRTACEAE**	**Xanthostemon eucalyptoides**	**MYRTACEAE**

1. Petioles less than 3mm or sessile 2
1. Petioles greater than 3mm 3

2.(1) Scar encircling branchlets at nodes, leaf bases attenuate ..... **Memecylon pauciflorum**
2. Scar absent, leaf bases cordate to stem clasping ..... **Xanthostemon eucalyptoides**

3.(1) Bark pinkish, flaking, flakes paper like **4**
3. Bark not paper like **5**

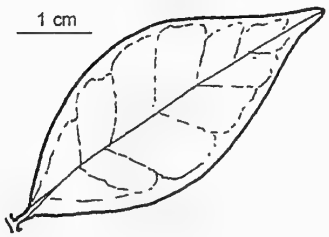
4.(3) Petiole grooved, leaf blade elliptic ..... **Syzygium angophoroides**
4. Petiole not grooved, leaf blade obovate ..... **Syzygium forte**

5.(3) Leaves somewhat glaucous ..... **Syzygium minutuliflorum**
5. Leaves not glaucous **6**

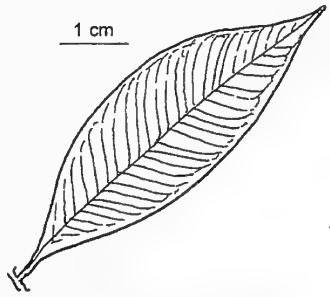
5.(4). Mature leaves greater than 70mm wide ..... **Syzygium suborbiculare**
5. Mature leaves up to 70mm wide **7**

7.(6) Main lateral veins greater than 5mm apart, some to 10mm (measured at midrib) ..... **Syzygium nervosum**
7. Main lateral veins generally less than 5mm apart **8**

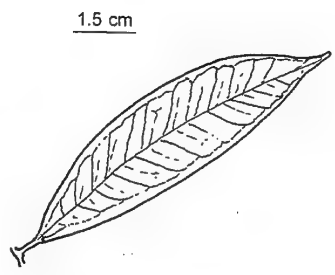
8.(7) Petiole not grooved above (where blade meets petiole) ..... **Syzygium armstrongii**
8. Petiole grooved above ..... **Syzygium angophoroides**



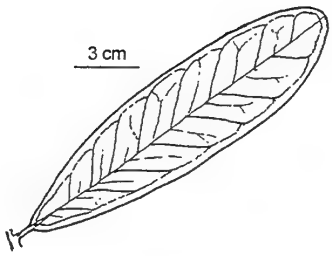
Memecylon pauciflorum



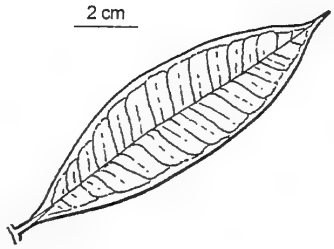
Syzygium angophoroides



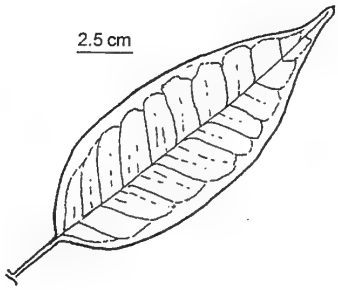
Syzygium armstrongii
(White Bush Apple)



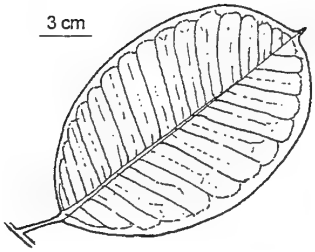
Syzygium forte
(White Bush Apple)



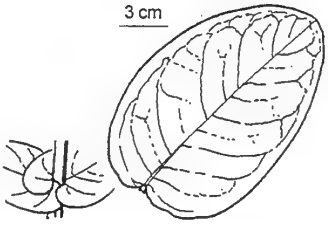
Syzygium minutuliflorum



Syzygium nervosum



Syzygium suborbiculare
(Red Bush Apple)



Xanthostemon eucalyptoides

GROUP 16

Tree or shrub, opposite simple leaves, petioles less than 10mm long

Avicennia marina	VERBENACEAE	**Notelaea microcarpa**	OLEACEAE
Canthium D55656	RUBIACEAE	**Pavetta brownii**	RUBIACEAE
Carallia brachiata	RHIZOPHORACEAE	**Phaleria octandra**	THYMELAEACEAE
Cassine melanocarpa	CELASTRACEAE	**Salacia chinensis**	HIPPOCRATEACEAE
Choriceras tricorne	EUPHORBIACEAE	**Santalum album**	SANTALACEAE
Clerodendrum inerme	VERBENACEAE	**Strychnos lucida**	LOGANIACEAE
Cyclophyllum schultzii	RUBIACEAE	**Tarenna australis**	RUBIACEAE
Ixora timorensis	RUBIACEAE	**Xanthostemon eucalyptoides**	MYRTACEAE
Memecylon pauciflorum	MELASTOMATACEAE		

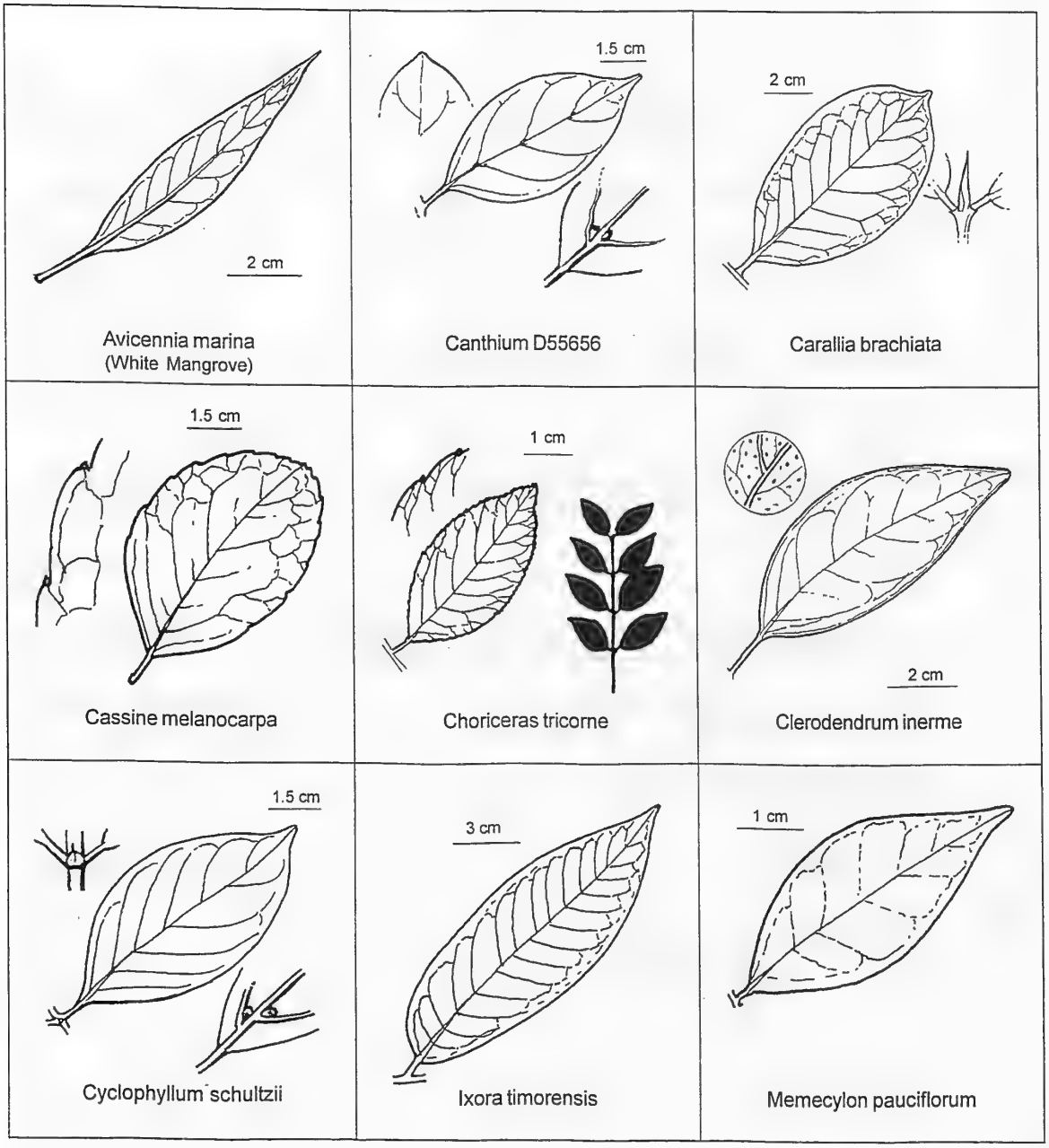
1.	Leaves with 3 main veins running from base to near the apex	**Strychnos lucida**
1.	Leaves with just 1 main vein running from the base	2
2.(1)	Margin of leaves with fine serrations or dentations	3
2.	Margin of leaves entire	6
3.(2)	Distinct pointed terminal stipule, greater than 6mm long	**Carallia brachiata**
3.	Terminal stipule if present less than 6mm long	4
4.(3)	Lower leaf surface hairy	**Choriceras tricorne**
4.	Leaf glabrous	5
5.(4)	Tree or upright shrub	**Cassine melanocarpa**
5.	Scandent or scrambling shrub	**Salacia chinensis**
6.(2)	Lower surface of leaves grey to silvery, mangrove species	**Avicennia marina**
6.	Lower surface of leaves greenish, not a mangrove species	7
7.(6)	Leaf base cordate, stem clasping	**Xanthostemon eucalyptoides**
7.	Leaf base not as above	8
8.(7)	Distinct pointed terminal stipule, greater than 6mm long	**Carallia brachiata**
8.	Terminal stipule if present less than 6mm long	9
9.(8)	Supra-axillary branching	**Tarenna australis**
9.	Normal branching	10
10.(9)	Leaves lanceolate; most leaves greater than 3 times longer than wide	**Notelaea microcarpa**
10.	Leaves ovate to elliptic; majority of leaves less than 3 longer than wide	11
11.(10)	Numerous tiny pits, usually on both leaf surfaces	**Clerodendrum inerme**
11.	Leaf surfaces without pits	12
12.(11)	Growth habit scandent or scrambling shrub	**Salacia chinensis**
12.	Growth habit tree or upright shrub	13
13.(12)	Leaves hairy	**Pavetta brownii**
13.	Leaves glabrous	14
14.(13)	No stipules present	15
14.	Stipules present (best seen on new growth)	17

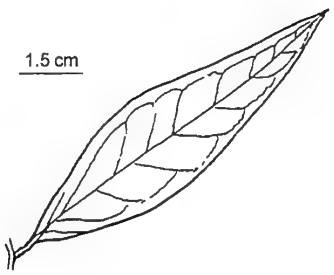
15.(14) Petiole less than 5mm long ..... **Memecylon pauciflorum**
15. Petiole greater than 5mm long **16**

16.(14) Leaves strongly discolorous, juvenile growth may be whorled ..... **Santalum album**
16. Leaves not discolorous ..... **Phaleria octandra**

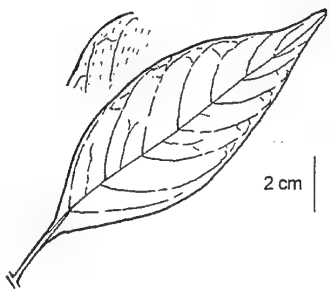
17.(16) Number of main lateral veins on either side of mid-vein greater than 7 ..... **Ixora timorensis**
17. Number of main lateral veins on either side of mid-vein less than 7 ..... **18**

18.(17) Groove in upper mid-vein, leaves bend without cracking ..... **Cyclophyllum schultzii**
18 No groove in upper mid-vein, leaves stiff, cracking when bent ..... **Canthium D55656**

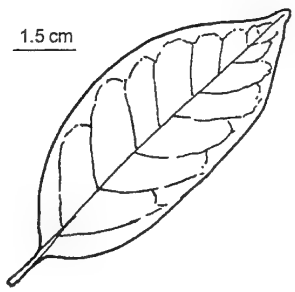




Notelaea microcarpa

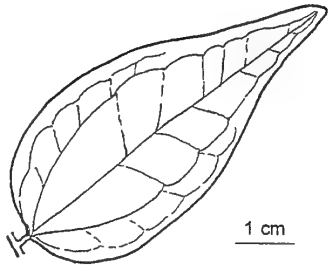


Pavetta brownii

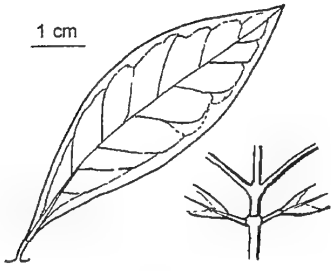


Salacia chinensis

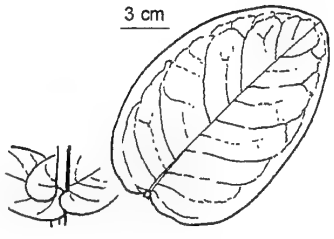
Santalum album
(Sandalwood)



Strychnos lucida
(Strychnine Tree)



Tarenna australis



Xanthostemon eucalyptoides

GROUP 17

Tree or shrub, opposite simple leaves, petioles more than 10mm long

Clerodendrum costatum	**VERBENACEAE**	**Nauclea orientalis**	**RUBIACEAE**
Clerodendrum floribundum	**VERBENACEAE**	**Pavetta brownii**	**RUBIACEAE**
Clerodendrum inerme	**VERBENACEAE**	**Premna acuminata**	**VERBENACEAE**
Fagraea racemosa	**LOGANIACEAE**	**Psychotria nesophila**	**RUBIACEAE**
***Gmelina arborea**	**VERBENACEAE**	**Salacia chinensis**	**HIPPOCRATEACEAE**
Gmelina schlechteri	**VERBENACEAE**	**Santalum album**	**SANTALACEAE**
Ixora pentamera	**RUBIACEAE**	**Tarenna dallachiana**	**RUBIACEAE**
Melastoma malabathricum	**MELASTOMATACEAE**		

1. Leaves with 3-5 main veins running from base to apex of the blade ..... **Melastoma malabathricum**
1. Leaves with only 1 main vein running the full length of the blade **2**

2.(1) Leaves with large ovate/elliptic stipules prominent, greater than 10mm long ..... **Nauclea orientalis**
2. Stipules if present not large or prominent, less than 10mm long **3**

3.(2) Leaves with margins dentate (juvenile leaves), or crenulate **4**
3. Leaves with margins entire **7**

4.(3) Petioles less than 15mm long ..... **Salacia chinensis**
4. Petioles greater than 15mm long **5**

5.(4) Leaves with margins dentate more than 20 teeth on leaf ..... **Premna acuminata**
5. Leaves with margins dentate less than 20 teeth on leaf **6**

6.(5) Leaves deltoid shaped (broadest in basal third) ..... ***Gmelina arborea**
6. Leaves elliptic or ovate (broadest towards middle) ..... **Gmelina schlechteri**

7.(3) Leaves with glands at the base of the leaf, often hidden on the lower surface by the leaf curling at the base of the blade **8**
7. Leaves with no glands visible **9**

8.(7) Leaves deltoid ..... ***Gmelina arborea**
8. Leaves elliptic or ovate ..... **Gmelina schlechteri**

9.(7) Leaves deltoid shaped ..... **Premna acuminata**
9. Leaves elliptic, ovate or obovate **10**

10.(9) Stipules present, sometimes forming a collar around the stem **11**
10. Stipules absent, no collar forming around the stem **15**

11.(10) Stipules forming a collar enclosing the stem, with the stem arising out of the collar, growing tip absent, new growth arising from a slit within the collar ..... **Fagraea racemosa**
11. Plant with a growing point at the apex, petioles not joined as above **12**

12.(11) Orange finger like glands visible with hand lens when the stipule is peeled away (use new growth) ..... **Tarenna dallachiana**
12. No glands underneath stipules **13**

13.(12) Upper mid-vein of leaf grooved for most of the length ..... **Ixora pentamera**
13. Upper mid-vein not grooved; either flat or slightly concave **14**

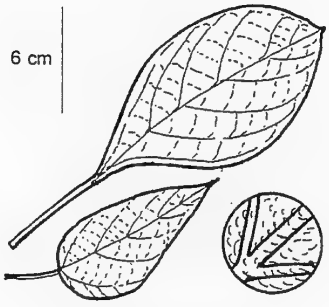
14.(13) New growth, stipules and leaves hairy ..... **Pavetta brownii**
14. Entire plant glabrous ..... **Psychotria nesophila**

15.(10) Majority of petioles less than 20mm long **16**
15. Majority of petioles greater than 20mm long **18**

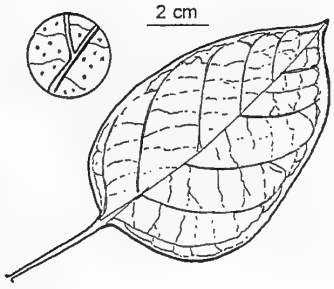
16.(15) Leaf surfaces covered with tiny pits, new growth hairy ..... **Clerodendrum inerme**
16. Leaf surfaces lacking pits, all parts glabrous **16**

17.(16) Tree or upright shrub ..... **Santalum album**
17. Scandent or scrambling shrub ..... **Salacia chinensis**

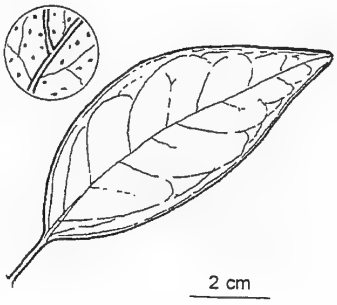
18.(15) Lower leaf surface clothed in short hooked hairs ..... **Clerodendrum costatum**
18. Lower leaf surface usually glabrous ..... **Clerodendrum floribundum**



Clerodendrum costatum

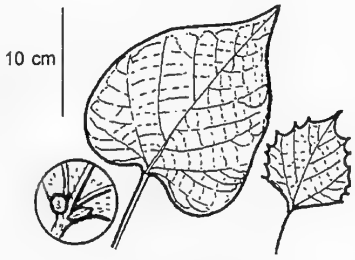


Clerodendrum floribundum



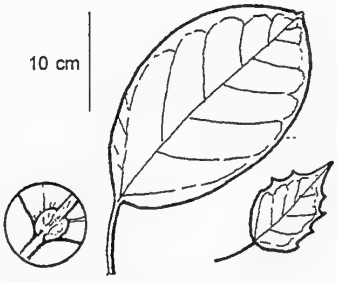
Clerodendrum inerme

Fagraea racemosa



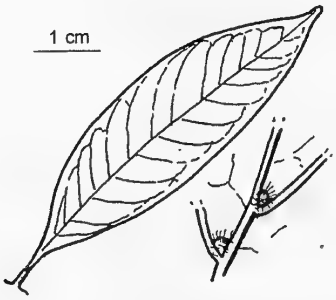
Juvenile leaf has serrated edge

*Gmelina arborea



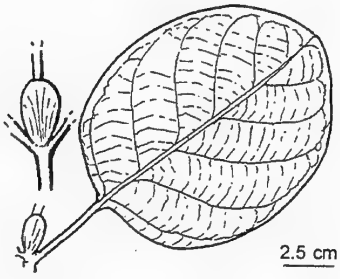
Juvenile leaf has serrated edge

Gmelina schlechteri

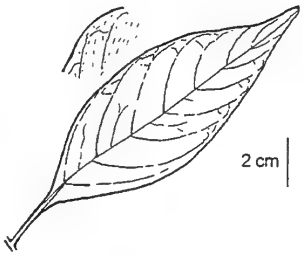


Ixora pentamera

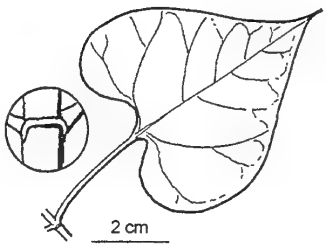
Melastoma malabathricum



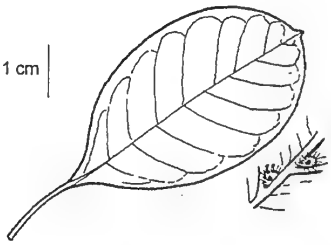
Nauclea orientalis
(Leichhardt Pine)



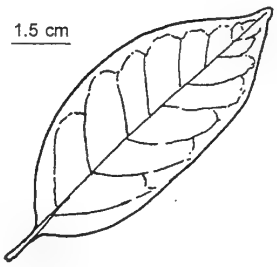
Pavetta brownii



Premna acuminata

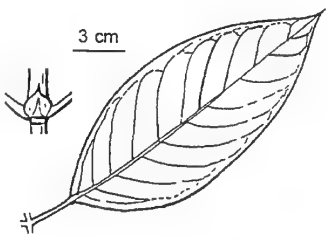


Psychotria nesophila



Salacia chinensis

Santalum album
(Sandalwood)



Tarenna dallachiana

GROUP 18

Tree or shrub, alternate simple leaves, milky sap

Antiaris toxicaria	MORACEAE	**Ficus racemosa**	MORACEAE
Artocarpus glaucus	MORACEAE	**Ficus scobina**	MORACEAE
Excoecaria ovalis	EUPHORBIACEAE	**Ficus virens**	MORACEAE
Ficus adenosperma	MORACEAE	**Lophostemon grandiflorus**	MYRTACEAE
****Ficus benjamina**	MORACEAE	**Lophostemon lactifluus**	MYRTACEAE
Ficus brachypoda	MORACEAE	**Mimusops elengi**	SAPOTACEAE
Ficus congesta	MORACEAE	**Pouteria richardii**	SAPOTACEAE
Ficus hispida	MORACEAE	**Pouteria sericea**	SAPOTACEAE
Ficus opposita	MORACEAE	***Thevetia peruviana**	APOCYNACEAE

1. Majoity of leaf bases asymmetrical **2**
1. Majoity of leaf bases symmetrical **3**

2.(1) All main lateral veins looping and connecting with next vein near the leaf margin, leaf may be scabrid on both surfaces ..... **Antiaris toxicaria**
2. Most lateral veins not connecting or if so predominantly via branching near the leaf margin, leaf may be scabrid on underside only ..... **Artocarpus glaucus**

3.(1) Leaves sessile, leaf length by breadth ratio more than 4 ..... ***Thevetia peruviana**
3. Leaves petiolate, length by breadth ratio less than 4 ..... **4**

4.(3) Leaves sandpapery or roughly hairy to touch **5**
4. Leaves smooth or silky hairy to touch **8**

5.(4) Stem centre hollow **6**
5. Stems not hollow **7**

6.(5) Most petioles less than 45mm long ..... **Ficus congesta**
6. Most petioles greater than 45mm long ..... **Ficus hispida**

7.(5) Bark almost black, fissured, leaves usually ovate ..... **Ficus opposita**
7. Bark grey, fibrous or smooth, leaves usually obovate ..... **Ficus scobina**

8.(4) Tree usually with aerial roots **9**
8. Tree without aerial roots **11**

9.(8) Petiole uniformly 10-12mm long ..... ****Ficus benjamina**
9. Petioles 10-50mm long **10**

10.(9) Longest petioles never greater than 25mm long ..... **Ficus brachypoda**
10. Longest petioles always greater than 25mm long ..... **Ficus virens**

11.(8) Blade margin deeply lobed ..... **Artocarpus glaucus**
11. Blade margin slightly crenate ..... **Excoecaria ovalis**
11. Blade margin entire **12**

12.(11) Stipules ca. 10mm long, often persistent ..... **Ficus racemosa**
12. Stipules less than 10mm long, not persistent **13**

13.(12) Lower surface of blade and all new growth covered with silky brown hairs ..... **Pouteria sericea**
13. Lower surface of blade not as above **14**

14.(13) Petiole obviously swollen at junction with main twig ..... **Pouteria richardii**
14. Petiole not swollen at junction with main twig **15**

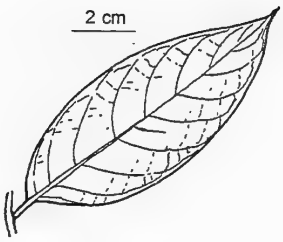
15.(14) Oil glands present, milky sap in new growth only **16**
15. No oil glands, milky sap in new & mature growth **17**

16.(15) Petioles less than 20mm long, bark hard & fissured, grey ..... **Lophostemon grandiflorus**
16. Petioles greater than 20mm long, bark flaky or papery, brownish ..... **Lophostemon lactifluus**

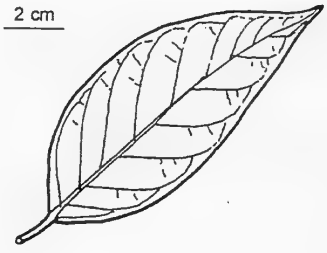
17.(15) Leaf apex rounded or emarginate ..... **Excoecaria ovalis**
17. Leaf apex acute **17**

18.(17) Leaf base slightly cordate ..... **Ficus adenosperma**
18. Leaf blades tapering to petiole **19**

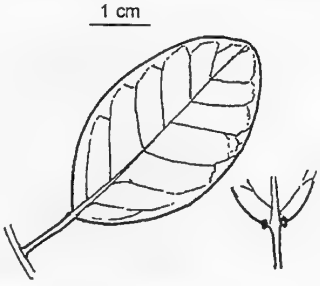
19.(18) Secondary and reticulate venation on the lower surface of blade raised and prominent ..... **Artocarpus glaucus**
19. Venation indistinct, only mid vein prominent ..... **Mimusops elengi**



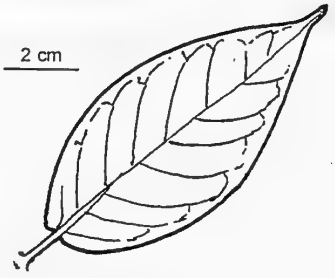
Antiaris toxicaria



Artocarpus glaucus

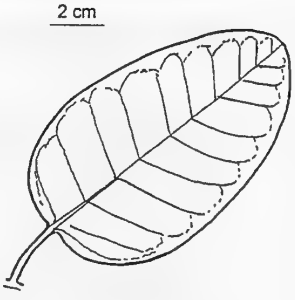


Excoecaria ovalis
(Blind Your Eye)

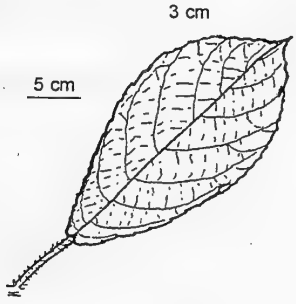


Ficus adenosperma

**Ficus benjamina
(Weeping Fig)



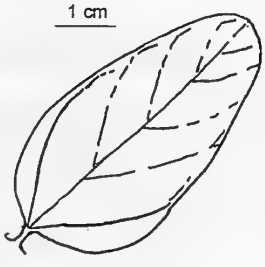
Ficus brachypoda
(Rock Fig)



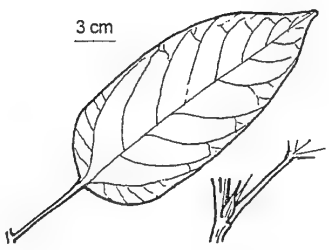
Ficus congesta

Opposite leaves, but one leaf often falls off.

Ficus hispida

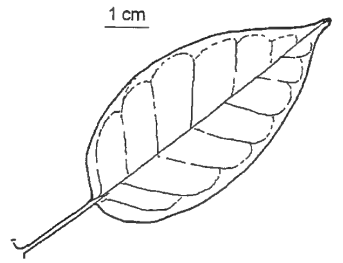


Ficus opposita
(Sandpaper Fig)



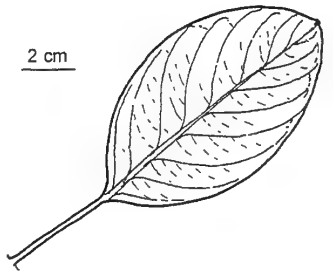
Ficus racemosa

Ficus scobina
(Sandpaper Fig)

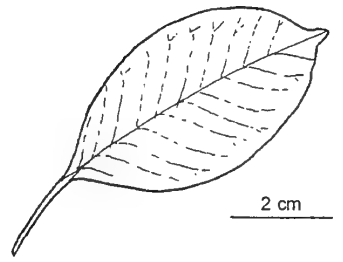


Ficus virens
(Banyan)

Lophostemon grandiflorus

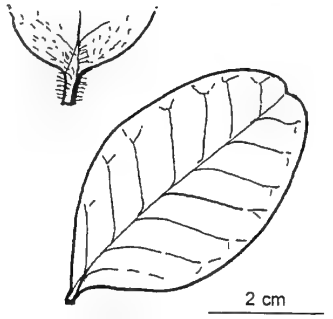


Lophostemon lactifluus
(Red Paper Bark)

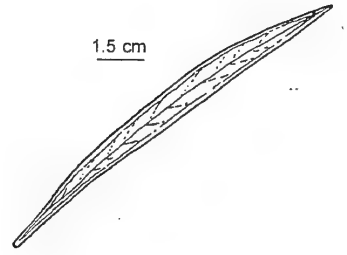


Mimusops elengi

Pouteria richardii



Pouteria sericea



*Thevetia peruviana
(Yellow Oleander)

GROUP 19

Tree or shrub, alternate simple leaves, margins toothed or lobed

Abelmoschus manihot	MALVACEAE	**Helicteres hirsuta**	STERCULIACEAE
Barringtonia acutangula	LECYTHIDACEAE	**Helicteres isora**	STERCULIACEAE
Claoxylon tenerifolium	EUPHORBIACEAE	**Hibiscus tiliaceus**	MALVACEAE
Cordia dichotoma	BORAGINACEAE	***Jatropha gossypifolia**	EUPHORBIACEAE
Croton arnhemicus	EUPHORBIACEAE	**Macaranga involucrata**	EUPHORBIACEAE
Croton habrophyllus	EUPHORBIACEAE	**Macaranga tanarius**	EUPHORBIACEAE
Elaeocarpus angustifolius	ELAEOCARPACEAE	**Mallotus nesophilus**	EUPHORBIACEAE
Elaeocarpus arnhemicus	ELAEOCARPACEAE	**Mallotus philippensis**	EUPHORBIACEAE
Elaeocarpus culminicola	ELAEOCARPACEAE	**Pipturus argenteus**	URTICACEAE
Flacourtia territorialis	FLACOURTIACEAE	**Schoutenia ovata**	TILIACEAE
***Grewia asiatica**	TILIACEAE	**Stenocarpus verticis**	PROTEACEAE
Grewia breviflora	TILIACEAE	**Trema tomentosa**	ULMACEAE
Grewia oxyphylla	TILIACEAE	**Urena lobata**	MALVACEAE
Gyrocarpus americanus	HERNANDIACEAE	***Ziziphus mauritiana**	RHAMNACEAE
Helicia australasica	PROTEACEAE	**Ziziphus oenopolia**	RHAMNACEAE

1. Leaves deeply 3 to 5 lobed to at least 1/2 the width of blade **2**
1. Leaves not deeply 3 to 5 lobed **4**

2.(1) Petioles and leaf margins viscid (sticky) ..... ***Jatropha gossypifolia**
2. Petioles and leaf margins not viscid **3**

3.(2) Leaf base cordate ..... **Abelmoschus manihot**
3. Leaf base attenuate ..... **Stenocarpus verticis**

4.(1) Numerous red vesicular glands on lower leaf surface ..... **Mallotus philippensis**
4. Numerous yellow vesicular glands on lower leaf surface ..... **Mallotus nesophilus**
4. Lower surface of leaf without red or yellow vesicular glands (non coloured vesicular glands may be present) **5**

5.(4) Under surface of leaves nearly white ..... **Pipturus argenteus**
5. Under surface of leaves greenish **6**

6.(5) Leaves with domatia in mid-vein axils on lower leaf surface **7**
6. Leaves without domatia **10**

7.(6) Leaf with 3 main veins arising from the base ..... **Grewia oxyphylla**
7. Leaf with one main vein arising from the base, most petioles greater than 15mm long **8**
7. Leaf with one main vein arising from the base, most petioles less than 15mm long **9**

8.(7) Leaves less than 2.5 times as long as wide ..... **Cordia dichotoma**
8. Leaves greater than 2.5 times as long as wide ..... **Elaeocarpus culminicola**

9.(8) Leaf blades with 4-6 serrations per 10mm, greater than 3 times longer than wide ..... **Elaeocarpus angustifolius**
9. Leaf blades with less than 4 serrations per 10mm, less than 3 times longer than wide ..... **Elaeocarpus arnhemicus**

10.(6) Leaves with 2 to 6 spike like glands on the upper surface of petiole close to base of the blade ..... **Claoxylon tenerifolium**
10. Leaves with a gland on either side of the petiole, at the junction of the blade and petiole **11**
10. Leaves with no glands visible **12**

11.(10) Leaves hairy ..... **Croton arnhemicus**
11. Leaves glabrous or almost so ..... **Croton habrophyllus**

12.(10) Plants with thorns **13**
12. Plants lacking thorns **14**

13.(12) Underside of leaves covered with short dense matted white hairs, giving a distinctly white appearance ..... ***Ziziphus mauritiana**
13. Underside of leaves only slightly lighter than upper surface ..... **Ziziphus oenopolia**

14.(12) Base of leaves attenuate **15**
14. Base of leaves rounded, truncate or cordate **18**

15.(14) Leaves small, less than 40mm long ..... **Flacourtia territorialis**
15. Leaves greater than 60mm long **16**

16.(15) Majority of petioles greater than 20mm ..... **Elaeocarpus culminicola**
16. Majority of petioles less than 20mm **17**

17.(16) Petiole swollen at junction with main twig ..... **Helicia australasica**
17. Petiole not swollen at junction with main twig tree often with red catkin flowers ..... **Barringtonia acutangula**

18.(14) Main vein lower leaf surface with a slit near the base of the blade **19**
18. No slit on mid-vein **20**

19.(18) Margins finely serrated ..... **Hibiscus tiliaceus**
19. Margins lobed ..... **Urena lobata**

20.(18) Numerous vesicular glands on lower leaf surface **21**
20. Lower leaf surface lacking vesicular glands **22**

21.(20) Blade slightly peltate, petiole attached to the blade less than 10mm in from the base ..... **Macaranga involucrata**
21. Base distinctly peltate; petiole attached greater than 10mm in from the base of the blade ..... **Macaranga tanarius**

22.(20) Majority of petioles less than 20mm long **23**
22. Majority of petioles greater than 20mm long **28**

23.(22) The upper surface of petiole with a distinct groove ..... **Trema tomentosa**
23. Petiole with no groove **24**

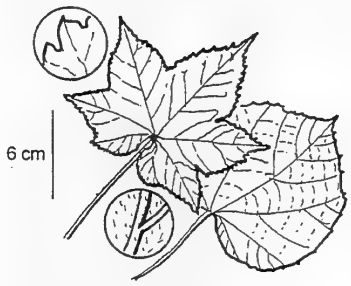
24.(23) Leaf blade greater than 1.6 times long as wide **25**
24. Leaf blade less than 1.6 times long as wide **27**

25.(24) Leaf margin irregularly lobed (mainly in apical half) ..... **Schoutenia ovata**
25. Leaf margin serrulate to dentate **26**

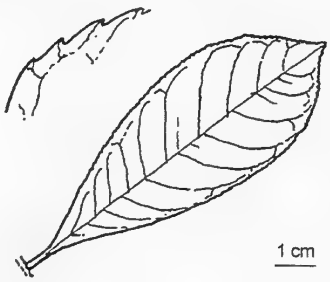
26.(25) Petiole expanded where it meets blade ..... **Grewia breviflora**
26. Petiole same size throughout ..... **Helicteres hirsuta**

27.(24) Petiole expanded to double width where it meets blade ..... ***Grewia asiatica**
27. Petiole same size throughout ..... **Helicteres isora**

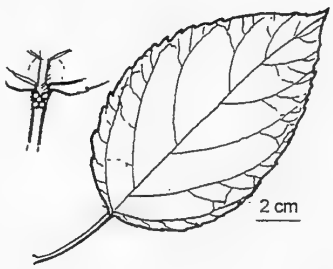
28.(22) Margins of lobes entire ..... **Gyrocarpus americanus**
28. Margins of lobes dentate ..... **Abelmoschus manihot**



Ablemoschus manihot

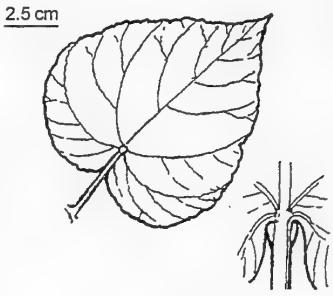


Barringtonia acutangula
(Freshwater Mangrove)

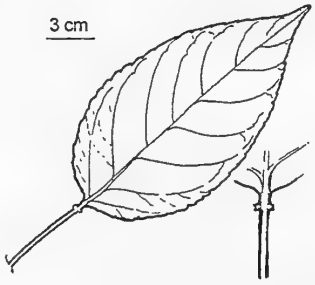


Claoxylon tenerifolium

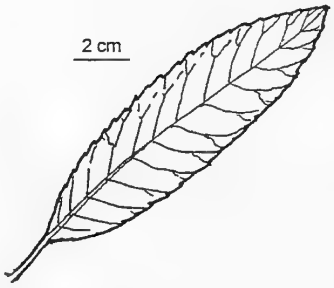
Cordia dichotoma



Croton arnhemicus

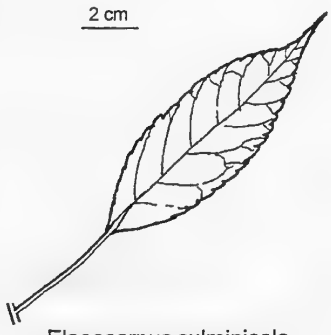


Croton habrophyllus

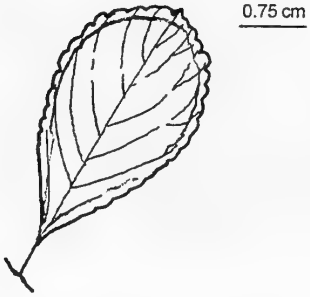


Elaeocarpus angustifolius

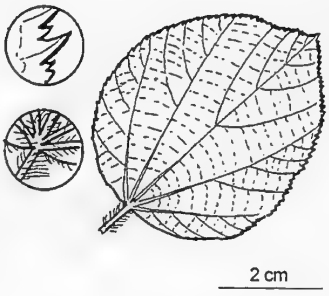
Elaeocarpus arnhemicus



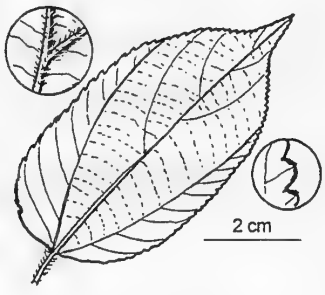
Elaeocarpus culminicola



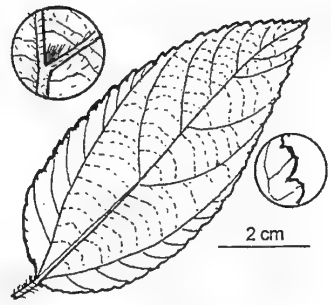
Flacourtia territorialis



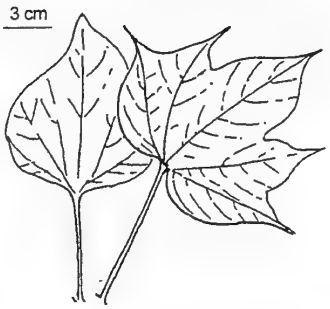
*Grewia asiatica



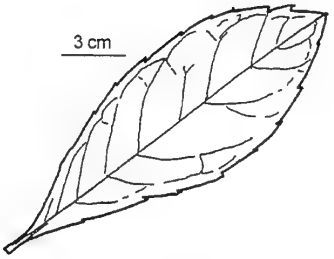
Grewia breviflora



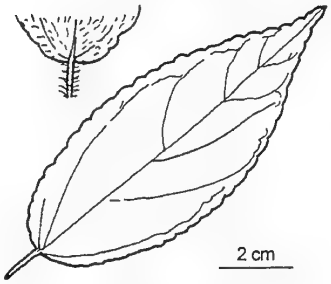
Grewia oxyphylla



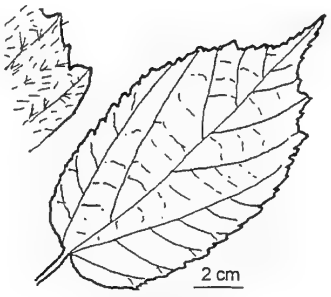
Gyrocarpus americanus
(Stinkwood)



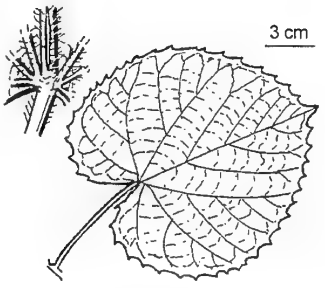
Helicia australasica



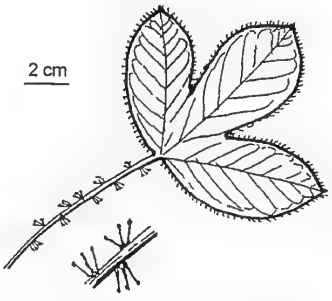
Helicteres hirsuta



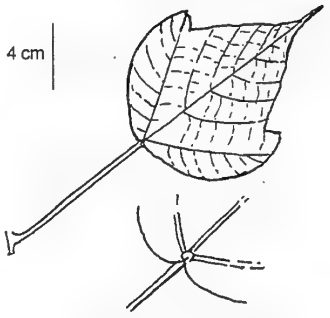
Helicteres isora



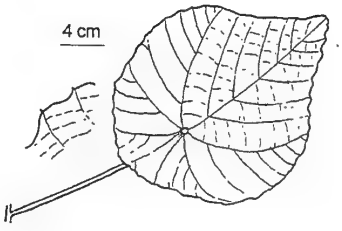
Hibiscus tiliaceus
(Beach Hibiscus)



*Jatropha gossypifolia
(Belly Ache Bush)



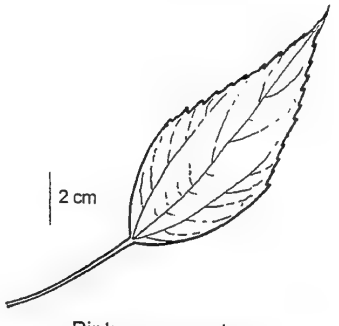
Macaranga involucrata



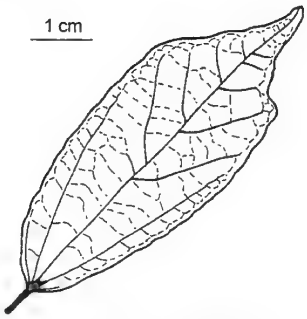
Macaranga tanarius

Mallotus nesophilus

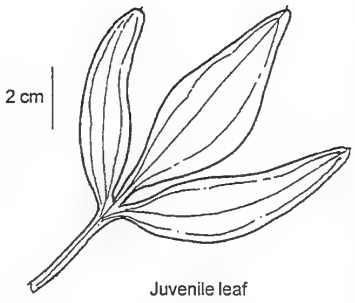
Mallotus philippensis



Pipturus argenteus

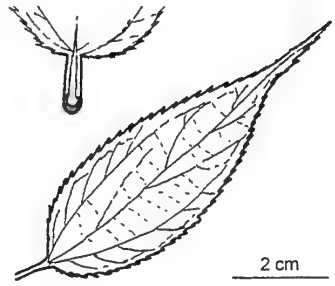


Schoutenia ovata

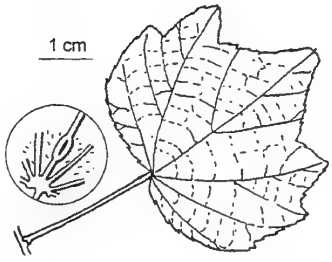


Juvenile leaf

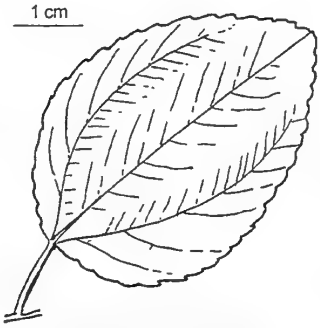
Stenocarpus verticis



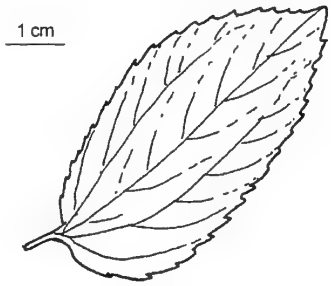
Trema tomentosa
(Poison Peach)



Urena lobata



*Ziziphus mauritiana
(Chinese Apple)



Ziziphus oenopolia

GROUP 20

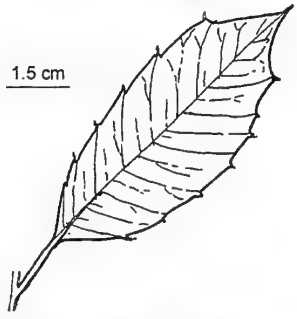
Juvenile leaves that have sharp spines on the margins, holly like

Auranticarpa melanosperma	PITTOSPORACEAE	**Denhamia obscura**	CELASTRACEAE
Celtis philippensis	ULMACEAE	**Drypetes deplanchei**	EUPHORBIACEAE

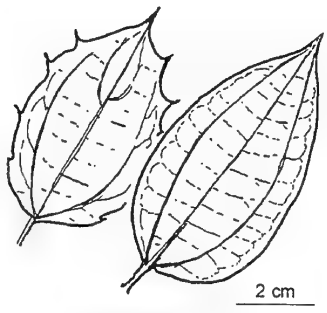
1. Leaves with 3 main veins running from the base of the blade ..... **Celtis philippensis**
1. Leaves with 1 main vein running from base **2**

2.(1) Leaves distichously arranged ..... **Drypetes deplanchei**
2. Leaves spirally arranged **3**

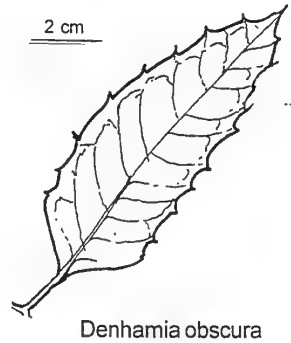
3.(2) New leaf bearing twigs reddish; leaves whitish; or distinctly lighter on the under surface of the blade ..... **Denhamia obscura**
3. Twigs not reddish; leaves greenish on under surface, not distinctly lighter ..... **Auranticarpa melanosperma**



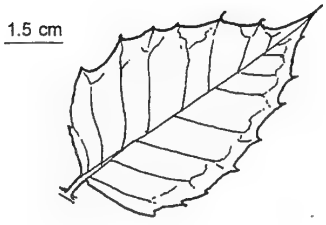
Auranticarpa melanosperma



Celtis philippensis



Denhamia obscura



Drypetes deplanchei

GROUP 21

Tree or shrub, alternate simple leaves, extra floral nectaries/glandular outgrowths present

Acacia auriculiformis	**MIMOSACEAE**	**Mallotus nesophilus**	**EUPHORBIACEAE**
Acacia holosericea	**MIMOSACEAE**	**Mallotus philippensis**	**EUPHORBIACEAE**
Croton argyratus	**EUPHORBIACEAE**	**Maranthes corymbosa**	**CHRYSOBALANACEAE**
Croton arnhemicus	**EUPHORBIACEAE**	**Omalanthus novo-guineensis**	**EUPHORBIACEAE**
Endospermum medullosum	**EUPHORBIACEAE**	**Thespesia populneoides**	**MALVACEAE**
Hibiscus tiliaceus	**MALVACEAE**	**Thespesia thespesioides**	**MALVACEAE**

1. Petioles less than 10mm long **2**
1. Petioles greater than 15mm long **4**

2.(1) Leaves with 1 main vein ..... **Maranthes corymbosa**
2. Leaves (phyllodes) with 3-4 main veins **3**

3.(2) Main veins on blade running together part of way up the lower margin, blade slightly to densely hairy ..... **Acacia holosericea**
3. Main veins on blade separate for total length of blade, blade glabrous ..... **Acacia auriculiformis**

4.(1) Main vein on lower leaf surface with a slit like, extra-floral nectary near the base of the blade **5**
4. No slit on mid-vein **7**

5.(4) Stipular scars leaving visible ring around the stem at each node ..... **Hibiscus tiliaceus**
5. Ring not visible **6**

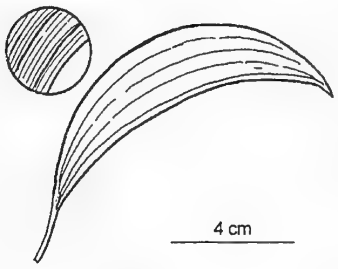
6.(5) Petiole length less than 1/2 of the length of the blade ..... **Thespesia thespesioides**
6. Petiole length greater than 1/2 of the length of the blade ..... **Thespesia populneoides**

7.(4) Numerous red vesicular glands on lower leaf surface ..... **Mallotus philippensis**
7. Numerous yellow vesicular glands on lower leaf surface ..... **Mallotus nesophilus**
7. Leaf with no vesicular glands present **8**

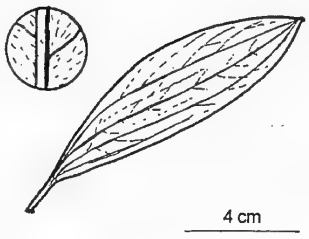
8.(7) Single gland where petiole joins blade (on upper surface) ..... **Omalanthus novo-guineensis**
8. Glands paired, on sides of petiole **9**

9.(8) Scattered glands on upper leaf surface near margins ..... **Endospermum medullosum**
9. Upper surface lacking glands **10**

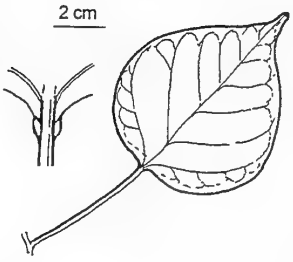
10.(9) Numerous stellate hairs on lower leaf surface ..... **Croton arnhemicus**
10. Numerous flattened stellate scales on lower surface ..... **Croton argyratus**



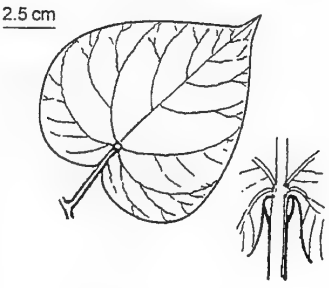
Acacia auriculiformis
(Black Wattle)



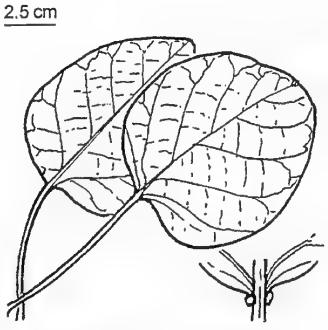
Acacia holosericea
(Silver Leaf Wattle)



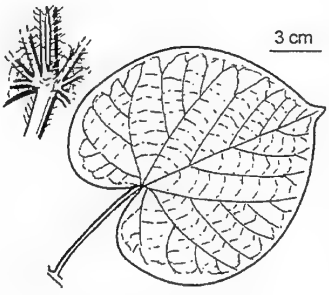
Croton argyratus



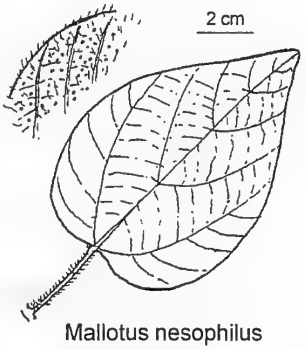
Croton arnhemicus



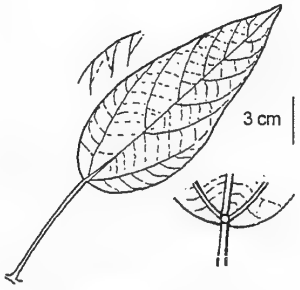
Endospermum medullosum



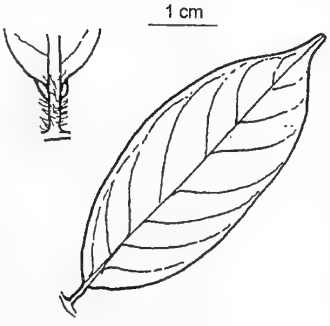
Hibiscus tiliaceus
(Beach Hibiscus)



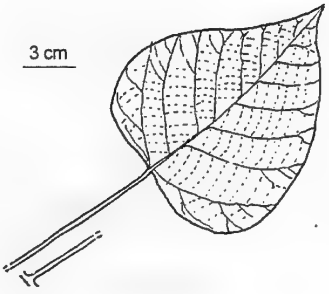
Mallotus nesophilus



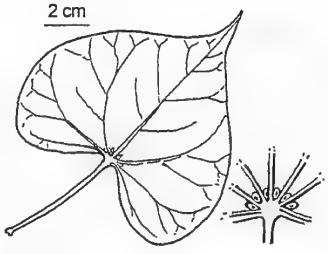
Mallotus philippensis



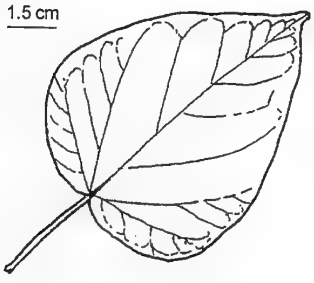
Maranthes corymbosa



Omalanthus novo-guineensis



Thespesia populneoides



Thespesia thespesioides

GROUP 22

Tree or shrub, alternate simple leaves, 3 or more main veins running from close to the base to at least 1/2 of way to apex

Celtis philippensis	ULMACEAE	**Melaleuca leucadendra**	MYRTACEAE
Cordia dichotoma	BORAGINACEAE	**Melaleuca viridiflora**	MYRTACEAE
Exocarpos latifolius	SANTALACEAE	**Neolitsea brassii**	LAURACEAE
Gyrocarpus americanus	HERNANDIACEAE	**Pleomele angustifolia**	AGAVACEAE
Leptospermum madidum	MYRTACEAE	**Stenocarpus acacioides**	PROTEACEAE
Macaranga involucrata	EUPHORBIACEAE	**Stenocarpus verticis**	PROTEACEAE
Macaranga tanarius	EUPHORBIACEAE	**Thespesia populneoides**	MALVACEAE
Melaleuca cajuputi	MYRTACEAE	**Ziziphus oenopolia**	RHAMNACEAE

1. Leaves stem clasping ..... **Pleomele angustifolia**
1. Leaves not stem clasping, attached by petiole **2**

2.(1) Leaves with small cavities between veins just above top of petiole ..... **Thespesia populneoides**
2. Leaves without such cavities **3**

3.(2) Plant with thorns ..... **Ziziphus oenopolia**
3. Plants lacking thorns **4**

4.(3) Numerous vesicular glands on lower leaf surface **5**
4. Lower leaf surface lacking vesicular glands **6**

5.(4) Blade slightly peltate, petiole attached to the blade less than 10mm in from the base ..... **Macaranga involucrata**
5. Base distinctly peltate; petiole attached more than 10mm in from the base of the blade ..... **Macaranga tanarius**

6.(4) Domatia present ..... **Cordia dichotoma**
6. No domatia **7**

7.(6) Leaves less than 7mm wide ..... **Leptospermum madidum**
7. Leaves greater than 10mm wide **8**

8.(7) Paperbark trees (white, papery bark) **9**
8. Not paperbarks **11**

9.(8) Broadest part of leaf closer to base than apex ..... **Melaleuca leucadendra**
9. Leaf generally broadest at middle **10**

10.(9) Hairs on new leaf growth spreading, leaf generally less than 25mm wide ..... **Melaleuca cajuputi**
10. Hairs on new growth appressed, leaf generally more than 30mm wide ..... **Melaleuca viridiflora**

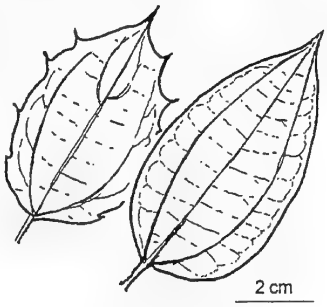
11.(8) Most petioles greater than 40mm long ..... **Gyrocarpus americanus**
11. Most petioles less than 40mm long **12**

12.(11) Reticulate venation distinct, many smaller veins running at ca. 90° to mid-rib **13**
12. Reticulate venation indistinct, smaller veins not at 90° to mid-rib **14**

13.(12) 2 main lateral veins arising at very base of blade ..... **Celtis philippensis**
13. 2 main lateral veins mostly short distance up from base ..... **Neolitsea brassii**

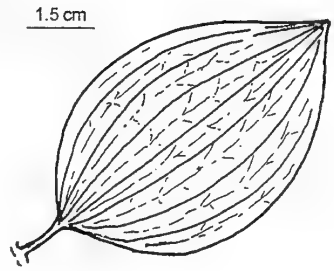
14.(12) Leaves strongly discolorous ..... **Stenocarpus verticis**
14. Leaves similar colour both sides **15**

15.(14) New buds pale grey or green ..... **Exocarpos latifolius**
15. New buds rusty coloured ..... **Stenocarpus acacioides**

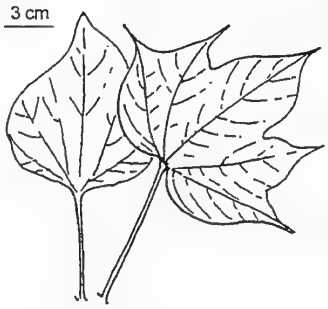


Celtis philippensis

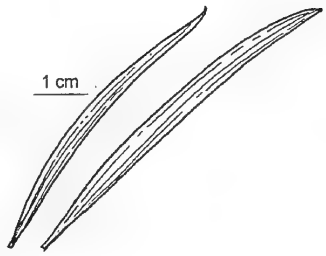
Cordia dichotoma



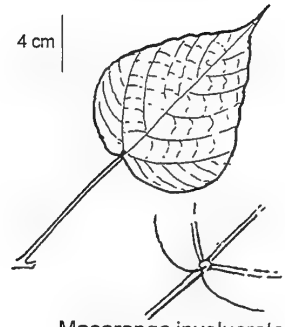
Exocarpos latifolius
(Native Cherry)



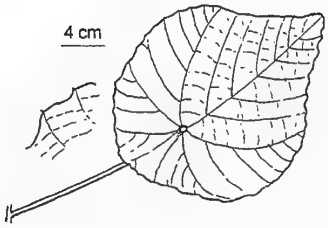
Gyrocarpus americanus
(Shitwood)



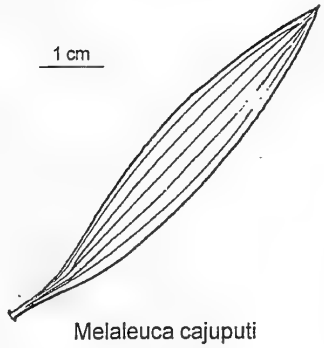
Leptospermum madidum
(Weeping Ti Tree)



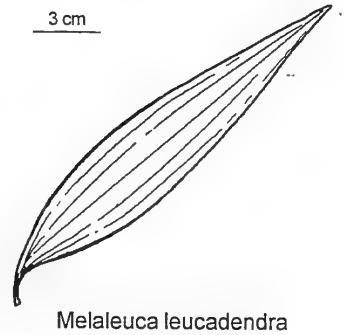
Macaranga involucrata



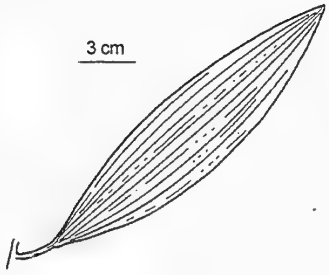
Macaranga tanarius



Melaleuca cajuputi
(Paperbark)

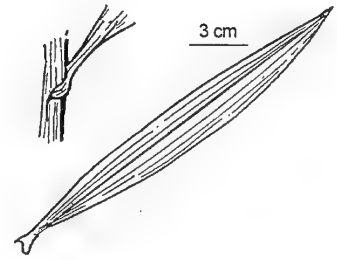


Melaleuca leucadendra
(Paperbark)

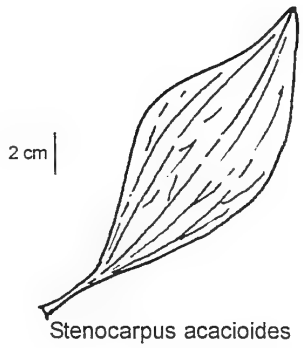


Melaleuca viridiflora
(Paperbark)

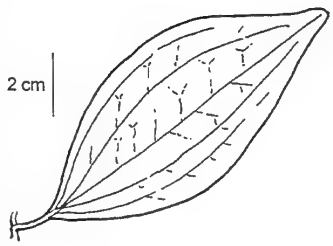
Neolitsea brassii



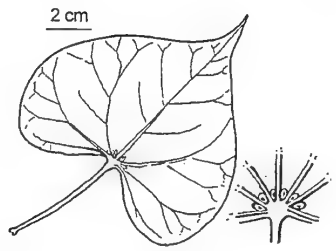
Pleomele angustifolia



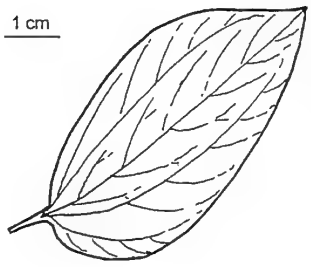
Stenocarpus acacioides



Stenocarpus verticis



Thespesia populneoides



Ziziphus oenopolia

GROUP 23

Tree or shrub, alternate simple leaves, domatia present

Antidesma ghesaembilla	EUPHORBIACEAE	**Sterculia holtzei**	STERCULIACEAE
Berrya javanica	TILIACEAE	**Sterculia quadrifida**	STERCULIACEAE
Cordia dichotoma	BORAGINACEAE	****Terminalia catappa**	COMBRETACEAE
Cordia subcordata	BORAGINACEAE	**Terminalia erythrocarpa**	COMBRETACEAE
Endiandra limnophila	LAURACEAE	**Terminalia microcarpa**	COMBRETACEAE
Polyalthia nitidissima	ANNONACEAE		

1. Blade greater than 200mm long **2**
1. Blade less than 200mm long **3**

2.(1) Petioles glabrous ..... **Terminalia erythrocarpa**
2. Petioles sericeous ..... ****Terminalia catappa**

3.(1) Majority of petioles greater than 15mm long **4**
3. Majority of petioles less than 15mm long **8**

4.(3) Scattered stellate hairs on under side of leaf blade **5**
4. Scattered simple hairs on under side of leaf blade **7**
4. Leaves glabrous ..... **Terminalia erythrocarpa**

5.(4) Stellate hairs visible on leaf veins only ..... **Berrya javanica**
5. Stellate hairs visible on leaf blade and veins **6**

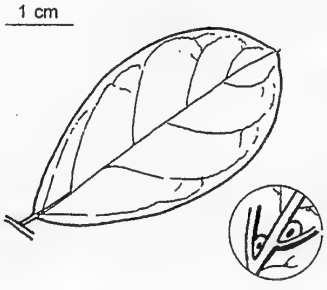
6.(5) Trunk usually with large buttresses, occurs in permanently wet jungles, or seasonally flooded jungles on heavy soils ..... **Sterculia holtzei**
6. Trunk may be broad at base, but not with large buttresses, occurs in drier habitats on well drained soils ..... **Sterculia quadrifida**

7.(5) Leaves shiny green on upper surface ..... **Cordia subcordata**
7. Leaves dull green ..... **Cordia dichotoma**

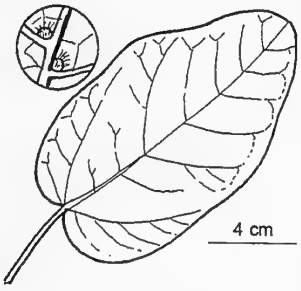
8.(4) Leaves with oil glands visible using hand lens with refracted light **9**
8. Oil glands not visible **10**

9.(8) Domatia present as tufts of hairs ..... **Polyalthia nitidissima**
9. Domatia present as hairless cavities ..... **Endiandra limnophila**

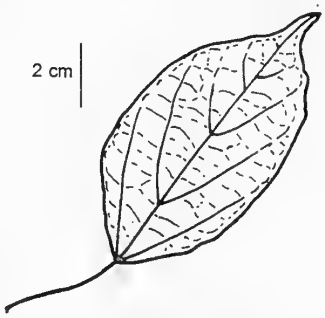
10.(8) Leaves spirally arranged, clustered towards ends of branches leaves generally obovate ..... **Terminalia microcarpa**
10. Leaves distichous, generally broadly ovate ..... **Antidesma ghesaembilla**



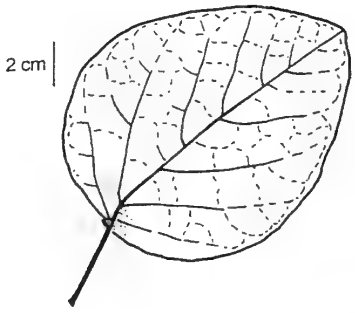
Antidesma ghesaembilla



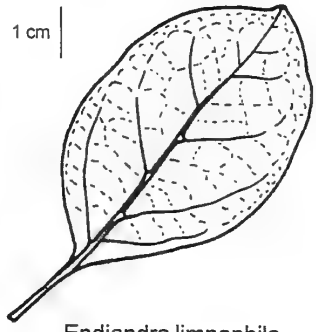
Berrya javanica



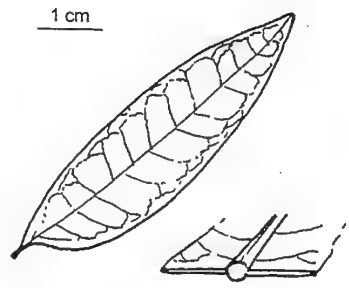
Cordia dichotoma



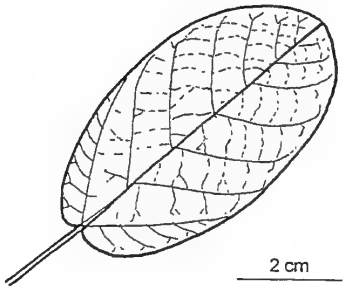
Cordia subcordata



Endiandra limnophila

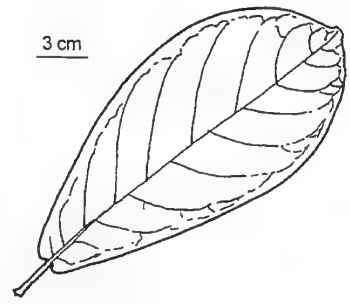


Polyalthia nitidissima



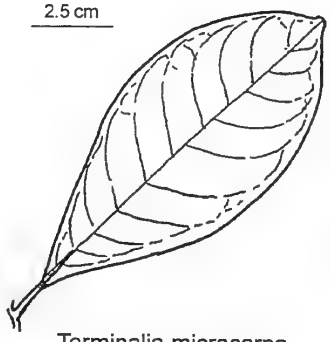
Sterculia holtzei

Sterculia quadrifida
(Peanut Tree)



**Terminalia catappa
(Indian Almond)

Terminalia erythrocarpa



Terminalia microcarpa

GROUP 24

Tree or shrub, alternate simple leaves, distichously arranged, (held on one plane)

Alphitonia excelsa	RHAMNACEAE	**Glochidion perakense**	EUPHORBIACEAE
Alphitonia incana	RHAMNACEAE	**Glochidion xerocarpum**	EUPHORBIACEAE
Breynia cernua	EUPHORBIACEAE	**Horsfieldia australiana**	MYRISTICACEAE
Bridelia tomentosa	EUPHORBIACEAE	**Margaritaria dubium-traceyi**	EUPHORBIACEAE
Cansjera leptostachya	OPILIACEAE	**Miliusa brahei**	ANNONACEAE
Capparis sepiaria	CAPPARACEAE	**Miliusa traceyi**	ANNONACEAE
Diospyros calycantha	EBENACEAE	**Myristica insipida**	MYRISTICACEAE
Diospyros compacta	EBENACEAE	**Myristica lancifolia**	MYRISTICACEAE
Diospyros cordifolia	EBENACEAE	**Opilia amentacea**	OPILIACEAE
Diospyros littorea	EBENACEAE	**Phyllanthus reticulatus**	EUPHORBIACEAE
Diospyros maritima	EBENACEAE	**Polyalthia australis**	ANNONACEAE
Drypetes deplanchei	EUPHORBIACEAE	**Polyalthia nitidissima**	ANNONACEAE
Flueggea virosa	EUPHORBIACEAE		

1. Clear sap exuded when petiole is broken from twig **2**
1. Sap not obvious **3**

2.(1) Areoles on underside of leaf forming a net venation less than 2mm in diameter, aril "web" like not totally covering seed, fruit with persistent tomentum ..... **Myristica insipida**
2. Areoles not less than 2mm in diameter, aril "web" like, not totally covering seed, fruit with sparse or no tomentum ..... **Myristica lancifolia**
2. Areoles not less than 2mm in diameter, orange aril totally covering seed ..... **Horsfieldia australiana**

3.(1) Lower leaf surface with a small orange gland at the apex of the mid-vein ..... **Capparis sepiaria**
3. Lower surface of leaf with no gland visible **4**

4.(3) Leaves distinctly white on under surface **5**
4. Leaves not white on under surface **6**

5.(4) Leaves pendulous, base mostly acute to attenuate grows in dry thickets & forests ..... **Alphitonia excelsa**
5. Leaves horizontal, base mostly cordate to obtuse, grows in moister forests ..... **Alphitonia incana**
(There are intermediates between the above two species)

6.(4) Oil glands visible using hand lens with refracted light **7**
6. Oil glands not visible **10**

7.(6) Most leaf bases obtuse to cordate **8**
7. Most leaf bases acute to attenuate **9**

8.(7) Leaves glabrous ..... **Polyalthia australis**
8. Leaves with hairs (often sparse) ..... **Miliusa traceyi**

9.(8) Base of upper mid-vein with longitudinal ridge ..... **Polyalthia nitidissima**
9. Ridge not present ..... **Miliusa brahei**

10.(6) Main lateral veins reaching the margins of the blade ..... **Bridelia tomentosa**
10. Main lateral veins not reaching the margins of the blade **11**

11.(10) Stipules absent (use new growth) **12**
11. Stipules present (use new growth) **18**

12.(11) Leaves softly hairy, thin textured ..... **Diospyros cordifolia**
12. Leaves not as above **13**

13.(12) Scrambling shrub, blade tapering into petiole forming a pair of "wings" where the petiole joins the blade, greater than 2mm long **14**
13. Tree or shrub not scrambling, petiole not as above **15**

14.(13) Glabrous on underside leaf and petiole ..... **Opilia amentacea**
14. Always some hairs on underside of leaf and/or petiole ..... **Cansjera leptostachya**

15. (13) Glands often in pairs at the base of the mid-vein, sometimes in threes, visible on under surface of blade as black spots or as yellowish spots on upper surface **16**
15. Leaves with glands not as above **17**

16.(15) Majority of leaves greater than 90mm long including petiole ..... **Diospyros maritima**
16. Majority of leaves less than 90mm long including petiole ..... **Diospyros littorea**

17.(15) Basal portion of upper mid-rib raised, often some leaves showing the effects of a fungal infection, seen as a black spot inside a yellowing ring ..... **Diospyros calycantha**
17. Mid-rib not raised at base, upper surface of some leaves with raised yellow glands towards the base ..... **Diospyros compacta**

18.(11) Primary and secondary venation on under surface of blade raised ..... **Flueggea virosa**
18. Lower surface of blade with only the primary veins raised **19**

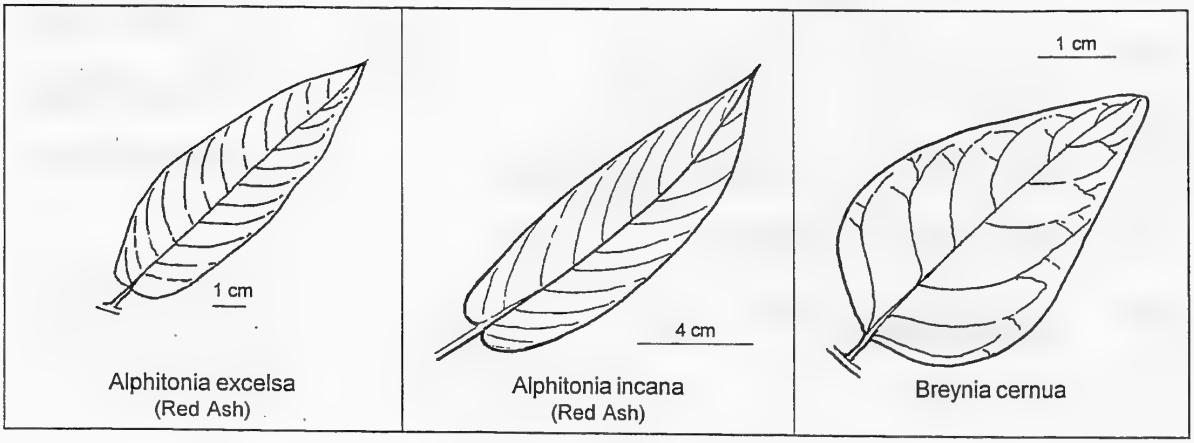
19.(18) Leaf bearing branchlets swollen at base, giving the appearance of being a compound leaf ..... **Phyllanthus reticulatus**
19. Leaf not as above **20**

20.(19) Petiole ca. twice the width of base of mid-vein on the lower surface of the blade **21**
20. Petiole ca. same width, or tapering gradually into the base of mid-vein on the lower surface of the blade **22**

21.(20) Large tree; buds arising from some distance above the axils ..... **Glochidion perakense**
21. Shrub to small tree, buds arising from within the axils ..... **Glochidion xerocarpum**

22.(21) Veins joined together forming distinct loops well inside blade margin ..... **Margaritaria dubium-traceyi**
22. Leaves not as above **23**

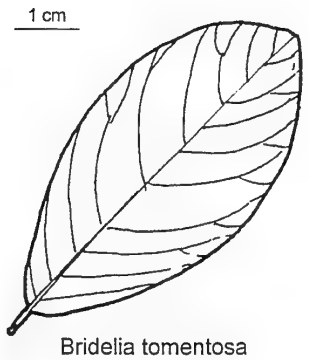
23.(22) Bark smooth blotched grey and white, petioles 5mm or longer ..... **Drypetes deplanchei**
23. Bark brown finely fissured, petioles up to 5mm long ..... **Breynia cernua**



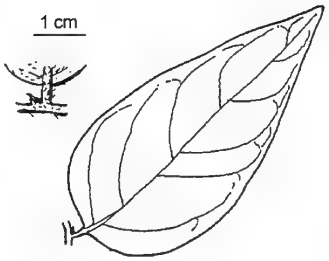
Alphitonia excelsa (Red Ash)

Alphitonia incana (Red Ash)

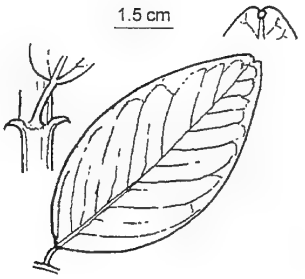
Breynia cernua



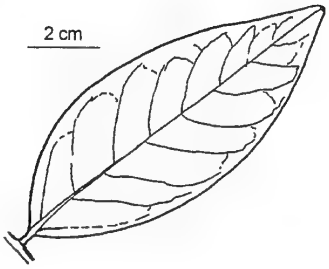
Bridelia tomentosa



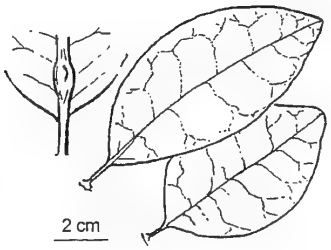
Cansjera leptostachya



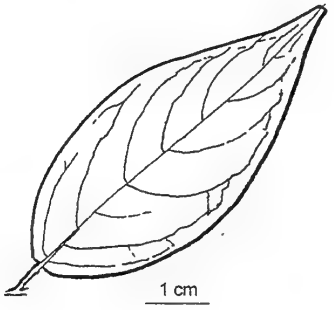
Capparis sepiaria



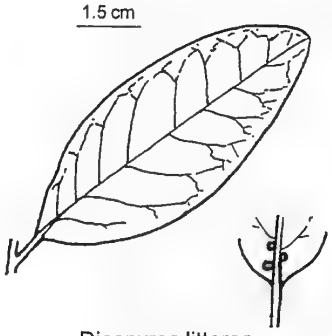
Diospyros calycantha



Diospyros compacta

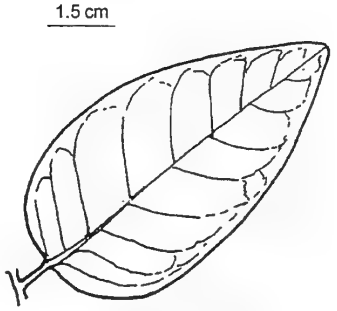


Diospyros cordifolia

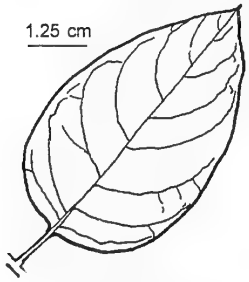


Diospyros littorea

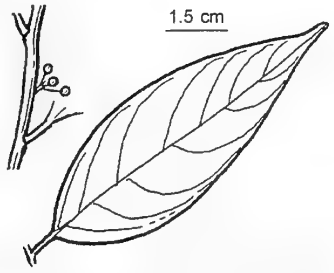
Diospyros maritima



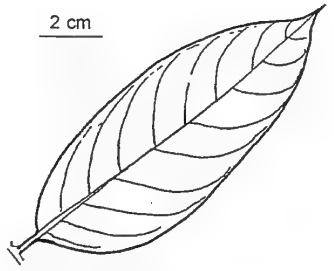
Drypetes deplanchei



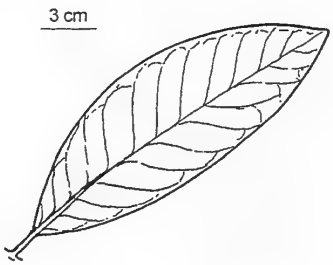
Flueggea virosa
(White Currant)



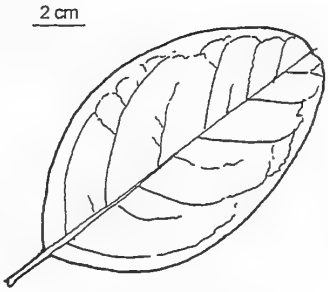
Glochidion perakense



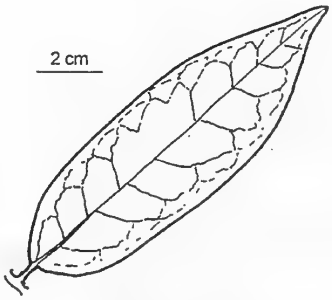
Glochidion xerocarpum



Horsfieldia australiana

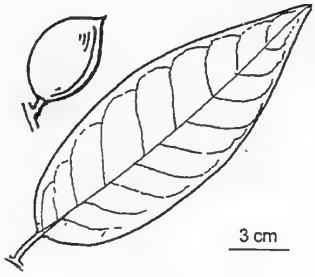


Margaritaria dubium-traceyi

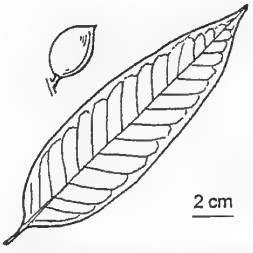


Miliusa brahei

Miliusa traceyi

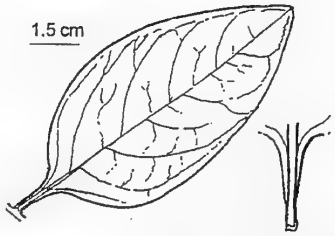


Myristica insipida
(Native Nutmeg)

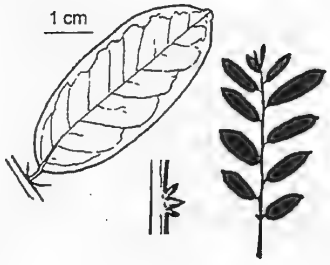


Sparse or no-indumentum, with fruit slightly smaller than M. insipida.

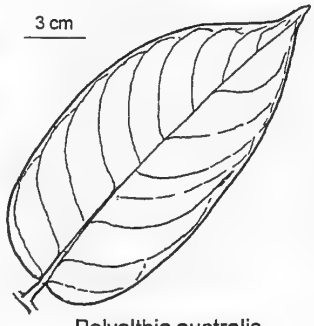
Myristica lancifolia
(Native Nutmeg)



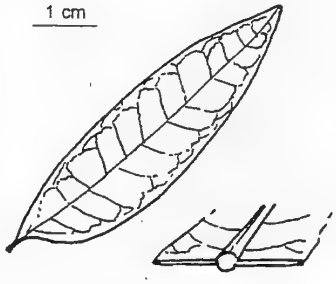
Opilia amentacea



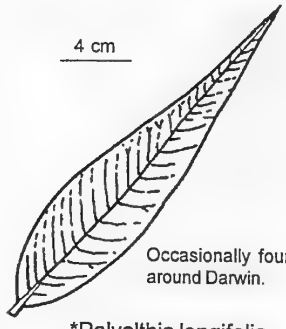
Phyllanthus reticulatus



Polyalthia australis



Polyalthia nitidissima



Occasionally found around Darwin.

*Polyalthia longifolia

GROUP 25

Tree or shrub; alternate simple leaves, spirally arranged

***Ardisia humilis**	MYRSINACEAE	**Lumnitzera racemosa**	COMBRETACEAE
Auranticarpa melanosperma	PITTOSPORACEAE	***Mangifera indica**	ANACARDIACEAE
Buchanania arborescens	ANACARDIACEAE	**Mimusops elengi**	SAPOTACEAE
Capparis sepiaria	CAPPARACEAE	**Pittosporum ferrugineum**	PITTOSPORACEAE
Cryptocarya cunninghamii	LAURACEAE	**Pittosporum moluccanum**	PITTOSPORACEAE
Cryptocarya exfoliata	LAURACEAE	**Pouteria richardii**	SAPOTACEAE
Denhamia obscura	CELASTRACEAE	**Pouteria sericea**	SAPOTACEAE
Dodonaea platyptera	SAPINDACEAE	**Rapanea benthamiana**	MYRSINACEAE
Embelia curvinervia	MYRSINACEAE	**Rapanea pedicellata**	MYRSINACEAE
Helicia australasica	PROTEACEAE	**Sterculia holtzei**	STERCULIACEAE
Ilex arnhemensis	AQUIFOLIACEAE	**Sterculia quadrifida**	STERCULIACEAE
Leptospermum madidum	MYRTACEAE	**Terminalia volucris**	COMBRETACEAE
Litsea glutinosa	LAURACEAE	**Vavaea australiana**	MELIACEAE
Lophostemon grandiflorus	MYRTACEAE	**Ximenia americana**	OLACACEAE
Lophostemon lactifluus	MYRTACEAE		

1. Spines or thorns present 2
1. Spines or thorns absent 3

2.(1) Small thorns often present, underside of leaf with a small orange gland at the apex of the mid-vein ..... **Capparis sepiaria**
2. Spines present, glands on leaf tip absent ..... **Ximenia americana**

3.(1) Base of leaves cordate to obtuse 4
3. Base of leaves attenuate 5

4.(3) Trunk usually with large buttresses, occurs in permanently wet jungles, or seasonally flooded jungles on heavy soils ..... **Sterculia holtzei**
4. Trunk may be broad at base, but not with buttresses, occurs in drier habitats on well drained soils ..... **Sterculia quadrifida**

5.(3) Leaves less than 7mm wide; weeping Ti-tree ..... **Leptospermum madidum**
5. Leaves greater than 7mm wide 6

6.(5) Under surface of leaves and all new growth covered with silky silvery/brown hairs ..... **Pouteria sericea**
6. Under surface of leaves not as above 7

7.(6) Lower surface mid-rib apex terminating with a gland ..... **Lumnitzera racemosa**
7. No gland at mid-rib apex 8

8.(7) Mature leaves sometimes with a whitish coating on the lower surface, new leaf bearing twigs reddish ..... **Denhamia obscura**
8. Leaves with no white coating on lower surface; twigs not reddish 9

9.(8) Petiole and new growth reddish ..... ***Ardisia humilis**
9. Petiole and new growth not reddish 10

10.(9) Petiole distinctly swollen at junction with the main twig 11
10. Petiole not swollen, same size for entire length, or tapering gradually 17

11.(10) Blade ratio less than 2.5 times longer than wide, scattered glands on either side of the mid-vein, on the upper surface of the blade, seen as yellowish indentations ..... **Vavaea australiana**
11. Blade ratio greater than 2.5 times longer than wide, no glands visible 12

12.(11) Majority of leaves obovate 13
12. Majority of leaves not obovate 14

13.(12) Main lateral veins dividing before reaching the blade margins ..... **Buchanania arborescens**
13. Main lateral veins not dividing at all, looping gradually upwards near the margins ..... **Pouteria richardii**

14.(13) Combined length of majority of leaves and petioles greater than 100mm long 15
14. Combined length of majority of leaves and petioles less than 100mm long ..... **Dodonaea platyptera**

15.(14) Majority of petioles less than 15mm long ..... **Helicia australasica**
15. Majority of petioles greater than 15mm long 16

16.(15) Main lateral veins greater than 12 pairs on either side of mid-vein ..... ***Mangifera indica**
16. Main lateral veins less than 12 pairs on either side of mid-vein ..... **Pouteria richardii**

17.(10) Both surfaces of leaves with scattered orange coloured vesicular glands, more numerous near leaf margins (obscure in Rapanea spp.) 18
17. Vesicular glands not visible 20

18.(17) Most petioles greater than 10mm long ..... **Embelia curvinervia**
18. Most petioles less than 10mm long 19

19.(18) Fruit pedicels less than 3mm ..... **Rapanea benthamiana**
19. Fruit pedicels greater than 3mm ..... **Rapanea pedicellata**

20.(17) Oil glands visible using eye lens with leaf held up to light (or with a distinct aroma when leaf crushed) 21
20. Oil glands not visible (no distinct aroma when leaf crushed) 25

21.(20) Bark brown, papery, flaky ..... **Lophostemon lactifluus**
21. Bark not papery, flaky 22

22.(21) Leaf with strong coconut smell when crushed ..... **Cryptocarya cunninghamii**
22. Leaf aroma not of coconut 23

23.(22) Bark fissured ..... **Lophostemon grandiflorus**
23. Bark smooth 24

24.(23) Petioles greater than 15mm ..... **Litsea glutinosa**
24. Petioles less than 15mm ..... **Cryptocarya exfoliata**

25.(22) Petioles, 1/4 length of blade or longer ..... **Mimusops elengi**
25. All petioles less than 1/4 length of blade 26

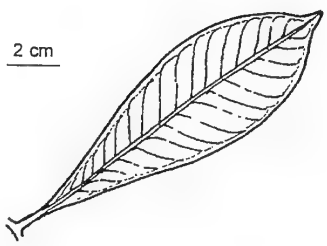
26.(25) Main lateral veins, less than 10 on either side of the mid-vein, or greater than 5mm between each main lateral vein when measured at the mid vein 27
26. Main lateral veins greater than 10 in number, less than 5mm between each vein when measured at the mid vein on the lower surface of the blade 30

27.(26) Branchlets glabrous, with fine lenticels visible with hand lens, leaves usually elliptic ..... **Ilex arnhemensis**
27. Branchlets hairy with no fine lenticels, leaves usually oblong or oblanceolate 28

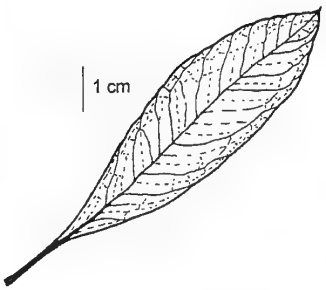
28.(27) Leaf tips obtuse to emarginate ..... **Terminalia volucris**
28. Leaf tips acute to acuminate, never emarginate 29

29.(28) Petiole channelled on the upper surface ..... **Pittosporum ferrugineum**
29. Mid-rib not as above ..... **Pittosporum moluccanum**

30.(26) Main lateral veins reaching or close to reaching the margins of the blade ..... **Auranticarpa melanosperma**
30. Main lateral veins not reaching the margins of the blade, but joined by arches to each other at the margins, new leaves viscid ..... **Dodonaea platyptera**

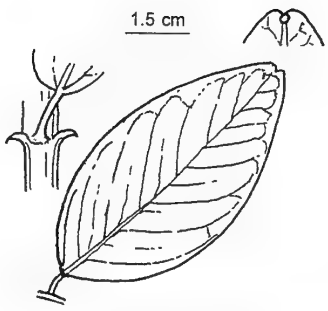


*Ardisia humilis



Auranticarpa melanosperma

Buchanania arborescens

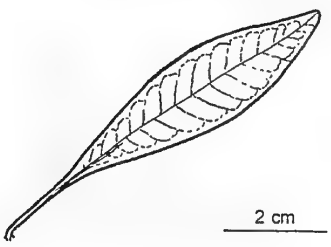


Capparis sepiaria

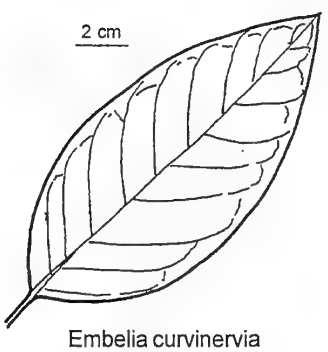
Cryptocarya cunninghamii

Cryptocarya exfoliata

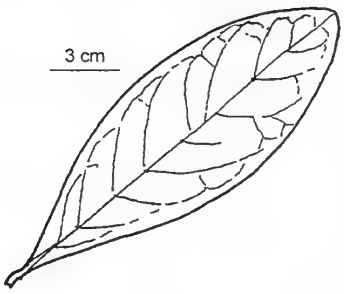
Denhamia obscura



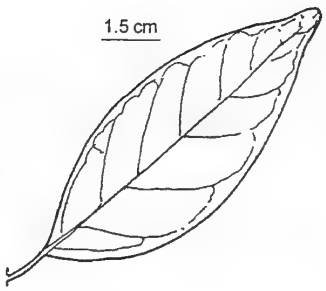
Dodonaea platyptera



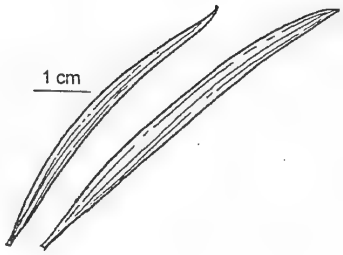
Embelia curvinervia



Helicia australasica

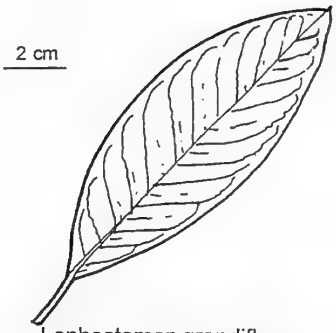


Ilex arnhemensis

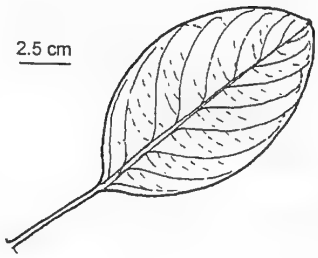


Leptospermum madidum
(Weeping Ti Tree)

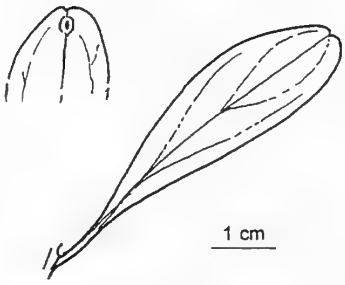
Litsea glutinosa



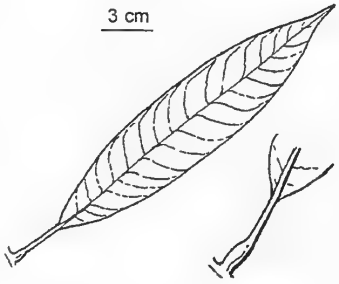
Lophostemon grandiflorus



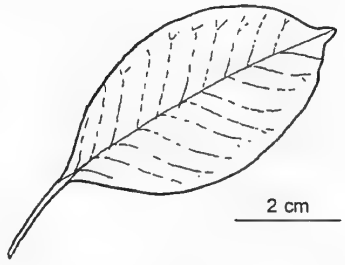
Lophostemon lactifluus
(Red Paperbark)



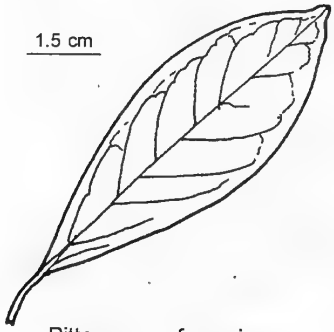
Lumnitzera racemosa



*Mangifera indica
(Mango Tree)



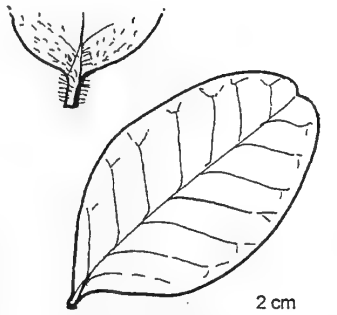
Mimusops elengi



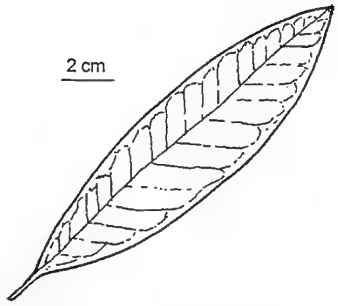
Pittosporum ferrugineum

Pittosporum moluccanum

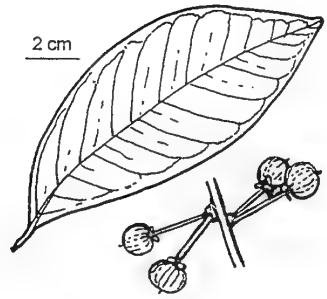
Pouteria richardii



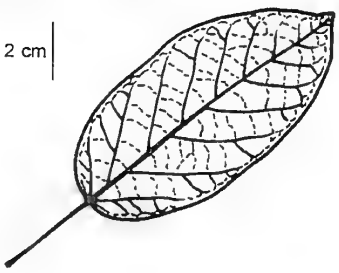
Pouteria sericea



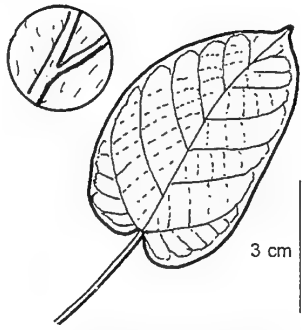
Rapanea benthamiana



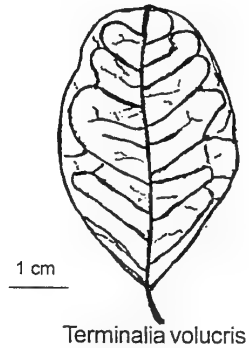
Rapanea pedicellata



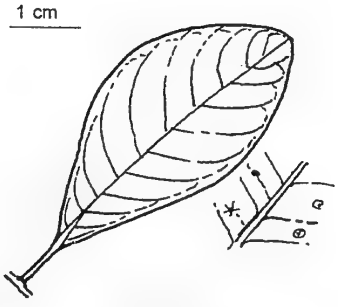
Sterculia holtzei



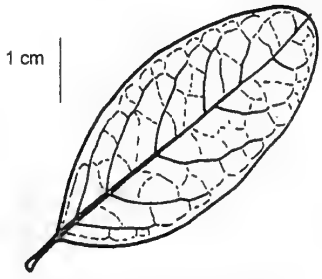
Sterculia quadrifida
(Peanut Tree)



Terminalia volucris



Vavaea australiana



Ximenia americana

GROUP 26

Vine, opposite or whorled simple leaves

Alyxia spicata	APOCYNACEAE	Marsdenia velutina	ASCLEPIADACEAE
Clerodendrum inerme	VERBENACEAE	Morinda jasminoides	RUBIACEAE
Cynanchum carnosum	ASCLEPIADACEAE	Morinda D29011	RUBIACEAE
*Dioscorea alata	DIOSCOREACEAE	Parsonsia velutina	APOCYNACEAE
Dioscorea transversa	DIOSCOREACEAE	Pisonia aculeata	NYCTAGINACEAE
Gymnanthera oblonga	ASCLEPIADACEAE	*Quisqualis indica	COMBRETACEAE
Hoya australis	ASCLEPIADACEAE	Salacia chinensis	HIPPOCRATEACEAE
Ichnocarpus frutescens	APOCYNACEAE	Secamone elliptica	ASCLEPIADACEAE
Jasminum aemulum	OLEACEAE	Thunbergia arnhemica	ACANTHACEAE
Jasminum molle	OLEACEAE	Tylophora benthamii	ASCLEPIADACEAE
Marsdenia geminata	ASCLEPIADACEAE	Tylophora cinerascens	ASCLEPIADACEAE
Marsdenia glandulifera	ASCLEPIADACEAE	Tylophora flexuosa	ASCLEPIADACEAE

1.	Milky sap present when twig or petiole is broken on mature growth	2
1.	No milky sap present when twig is broken (sap may be clear)	11
2.(1)	Leaves whorled, 3 or 4 leaves to each node	**Alyxia spicata**
2.	Leaves not whorled, only 2 leaves to each node	3
3.(2)	Entire plant succulent	**Hoya australis**
3.	Plant not succulent	4
4.(3)	Small glands at base of leaf mid-rib on upper surface	5
4.	Leaves with no glands	9
5.(4)	Majority of petioles less than 12mm long	**Marsdenia geminata**
5.	Majority of petioles greater than 12mm long	6
6.(5)	Leaf base attenuate	**Tylophora cinerascens**
6.	Leaf base cordate	7
7.(6)	Sap yellow	**Tylophora benthamii**
7.	Sap white	8
8.(7)	Petiole less than 40mm long	**Marsdenia glandulifera**
8.	Petiole greater than 40mm long	**Marsdenia velutina**
9.(5)	Final venation anastomosing into many small areoles	10
9.	Venation with only minor anastomosing	**Secamone elliptica**
10.(9)	Nodes on stems with a fringe of brown hairs, petioles and leaves often hairy	**Ichnocarpus frutescens**
10.	Nodes without a fringe of hairs, plant glabrous	**Gymnanthera oblonga**
11.(10)	Domatia present	12
11.	No domatia	13
12.(11)	greater than 7 pairs of main lateral veins, leaves dry black	**Morinda D29011**
12.	less than 7 pairs of main lateral veins, dried leaves not black	**Morinda jasminoides**
13.(12)	Small glands at base of leaf mid-rib on upper surface	**Tylophora flexuosa**
13.	Leaves with no glands	14
14.(13)	Clear sap present when twig or petiole is broken on mature growth	15
14.	No sap present	16

15.(14) Leaves hairy, base cordate ..... **Parsonsia velutina**
15. Leaves usually glabrous, base attenuate ..... **Cynanchum carnosum**

16.(14) Petiole jointed or appearing so near the base **17**
16. Petiole with no joint present **18**

17.(16) Upper surface of leaves with mid-vein sunken ..... **Jasminum aemulum**
17. Upper surface of leaves with mid-vein not sunken, or at the most slightly concave ..... **Jasminum molle**

18.(16) Leaf base cordate or lobed **19**
18. Leaf base obtuse to attenuate **21**

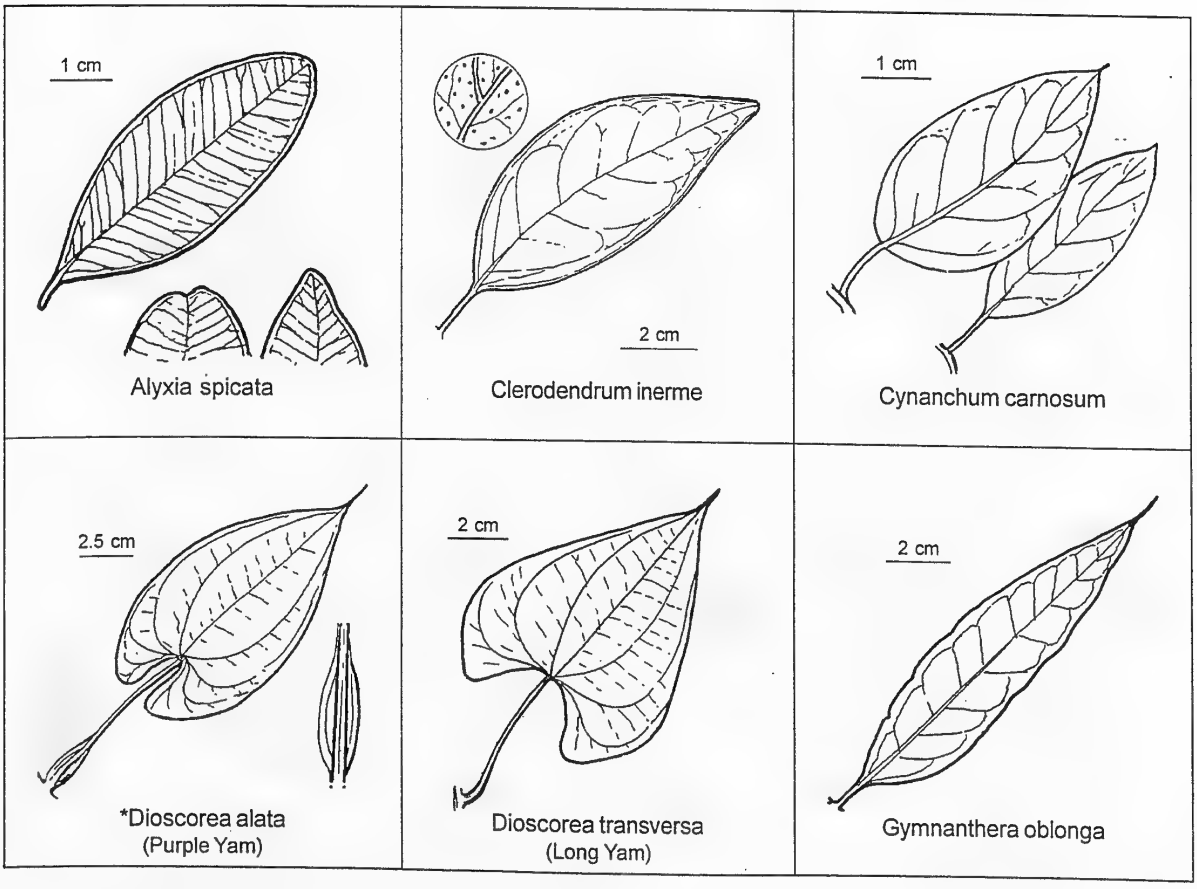
19.(18) Leaves and petioles with some hairs ..... **Thunbergia arnhemica**
19. Leaves and petioles glabrous **20**

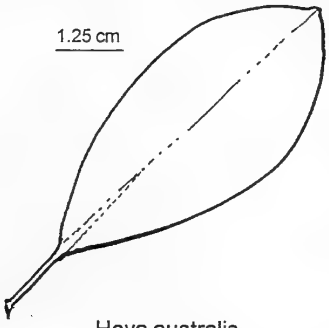
20.(19) Stem with 4 wings ..... ***Dioscorea alata**
20. Stem sometimes ribbed, but not winged ..... **Dioscorea transversa**

21.(18) Older stems with thorns **22**
21. No thorns present **23**

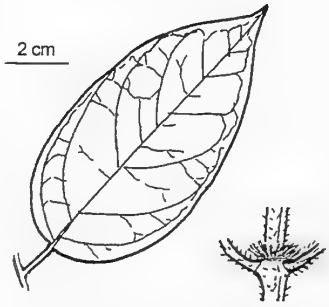
22.(21) Thorns recurved, leaves often clustered together ..... **Pisonia aculeata**
22. Thorns formed from persistent petiole bases, leaf spaced normally ..... ***Quisqualis indica**

23.(21) Leaf surface covered with small pits ..... **Clerodendrum inerme**
23. Leaf surface lacking pits ..... **Salacia chinensis**

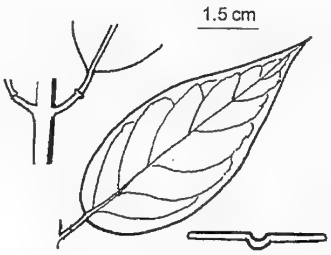




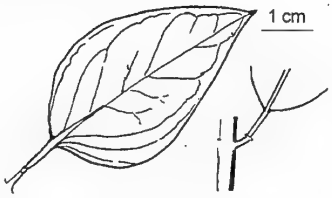
Hoya australis



Ichnocarpus frutescens

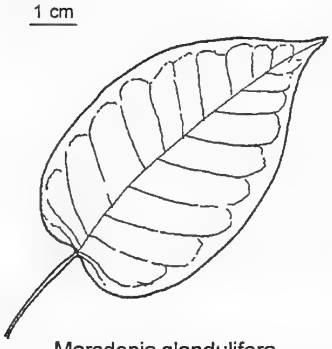


Jasminum aemulum

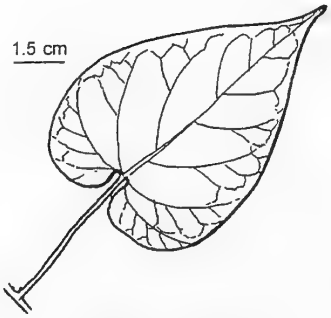


Jasminum molle

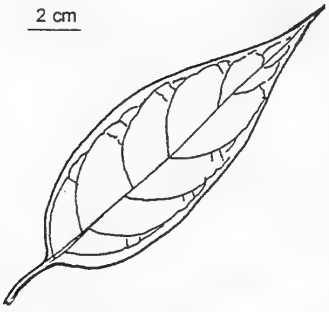
Marsdenia geminata



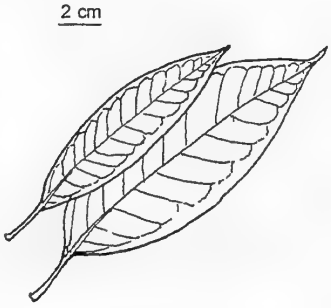
Marsdenia glandulifera



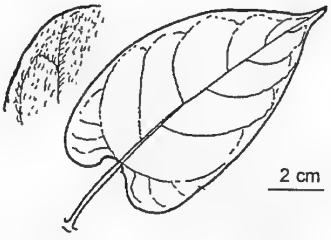
Marsdenia velutina



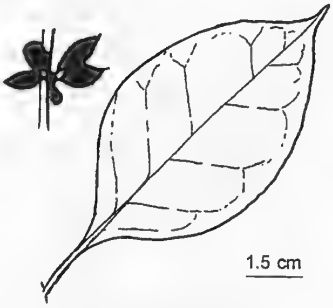
Morinda jasminoides



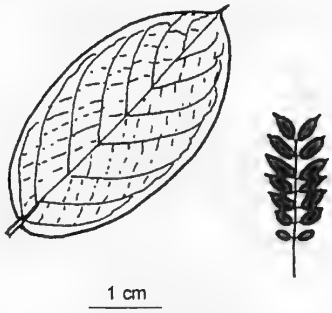
Morinda D29011



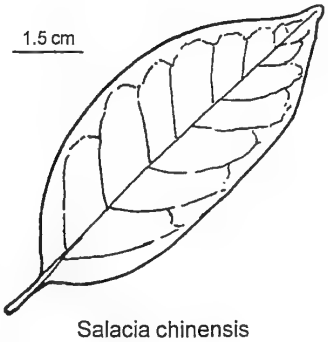
Parsonsia velutina



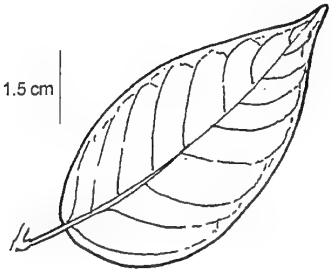
Pisonia aculeata



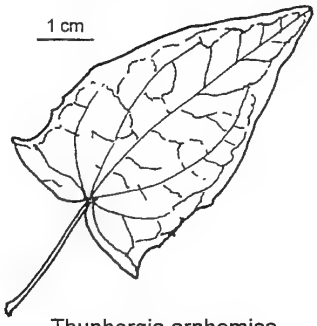
*Quisqualis indica
(Rangoon creeper)



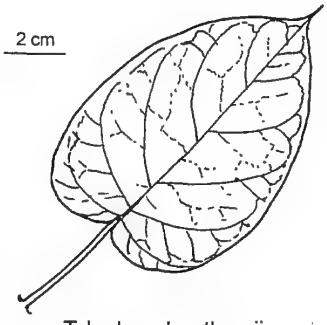
Salacia chinensis



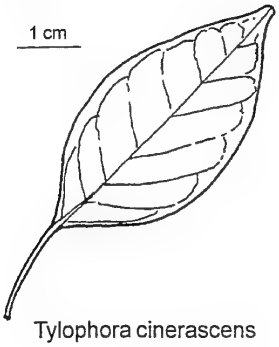
Secamone elliptica



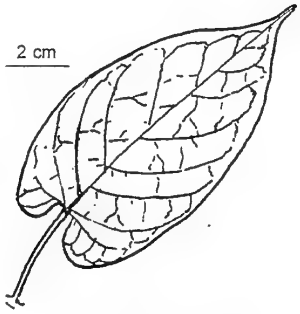
Thunbergia arnhemica



Tylophora benthamii



Tylophora cinerascens



Tylophora flexuosa

GROUP 27

Vine, leaves absent or leaf margins toothed or lobed

Cissus adnata	VITACEAE	**Luffa cylindrica**	CURCURBITACEAE
Cissus reniformis	VITACEAE	***Passiflora foetida**	PASSIFLORACEAE
Coccinia grandis	CUCURBITACEAE	***Passiflora suberosa**	PASSIFLORACEAE
Colubrina asiatica	RHAMNACEAE	**Sarcostemma viminale**	ASCLEPIADACEAE
Grewia oxyphylla	TILIACEAE	**Trichosanthes holtzei**	CUCURBITACEAE
***Ipomoea pes-tigridis**	CONVOLVULACEAE	**Trophis scandens**	MORACEAE
***Ipomoea quamoclit**	CONVOLVULACEAE	**Xenostegia tridentata**	CONVOLVULACEAE

1. Leaves absent ..... **Sarcostemma viminale**
1. Leaves divided virtually to the mid-rib, segments linear, giving the leaf a compound appearance ..... ***Ipomoea quamoclit**
1. Leaves not as above 2

2.(1) Leaves less than 10mm wide, not including toothing at base ..... **Xenostegia tridentata**
2. Leaves broader than 10mm 3

3.(2) Milky sap present when stem is broken (use mature growth) ..... **Trophis scandens**
3. Milky sap absent 4

4.(3) Plants without tendrils, twining habit 5
4. Plants with tendrils used for climbing 7

5.(4) Leaves deeply palmatifid ..... ***Ipomoea pes-tigridis**
5. Margin of leaves toothed 6

6.(5) Domatia present on under surface of leaf in vein axils (visible with hand lens) ..... **Grewia oxyphylla**
6. Domatia absent ..... **Colubrina asiatica**

7.(4) 3 to 5 distinct crater like glands scattered around the base of the blade between the main veins ..... **Coccinia grandis**
7. No glands at the base of the blade visible 8

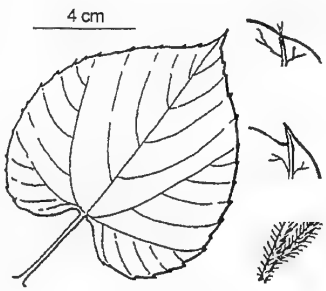
8.(7) Tendrils branched; surface of leaves rough or sandpapery to touch 9
8. Tendrils not branched; surface not rough to touch 10

9.(8) Tendrils 3-6 branched ..... **Luffa cylindrica**
9. Tendrils 2 branched ..... **Trichosanthes holtzei**

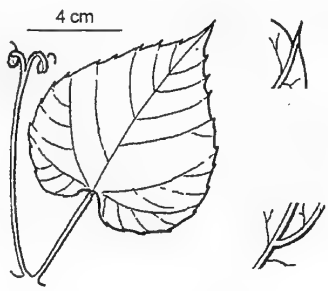
10.(8) Tendrils opposite leaves 11
10. Tendrils in leaf axils 12

11.(10) Veins of the lower surface of leaves hairy ..... **Cissus adnata**
11. Leaves glabrous ..... **Cissus reniformis**

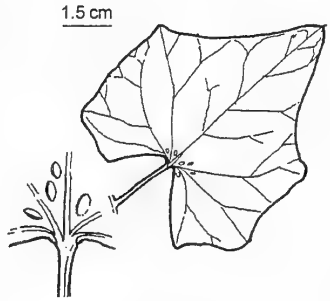
12.(10) Pair of prominent glands situated on either side of petiole ..... ***Passiflora suberosa**
12. Petiole without prominent glands ..... ***Passiflora foetida**



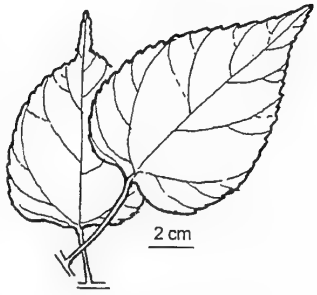
Cissus adnata



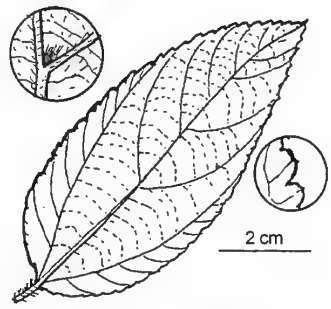
Cissus reniformis



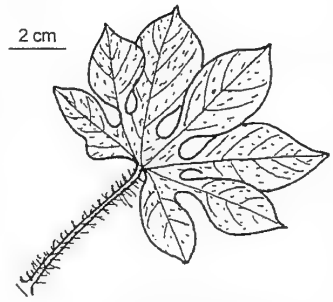
Coccinia grandis



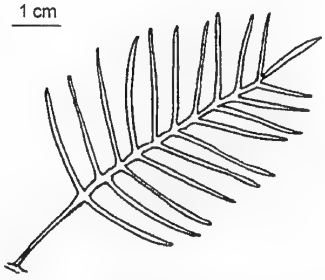
Colubrina asiatica



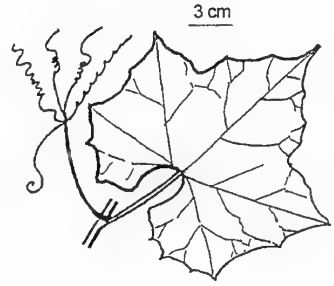
Grewia oxyphylla



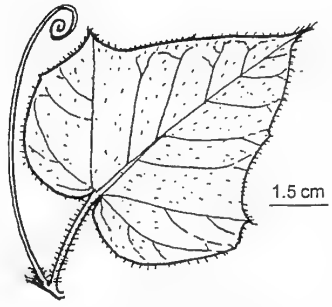
*Ipomoea pes-tigridis



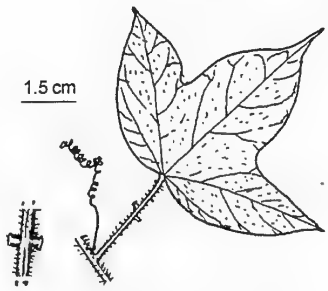
*Ipomoea quamoclit



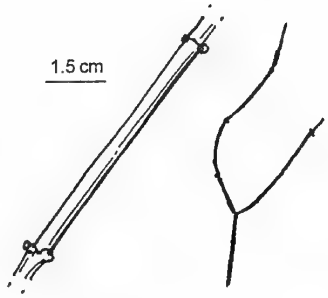
Luffa cylindrica
(Loofah)



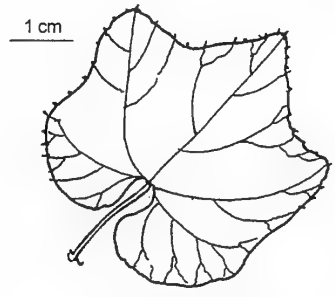
*Passiflora foetida
(Wild Passionfruit)



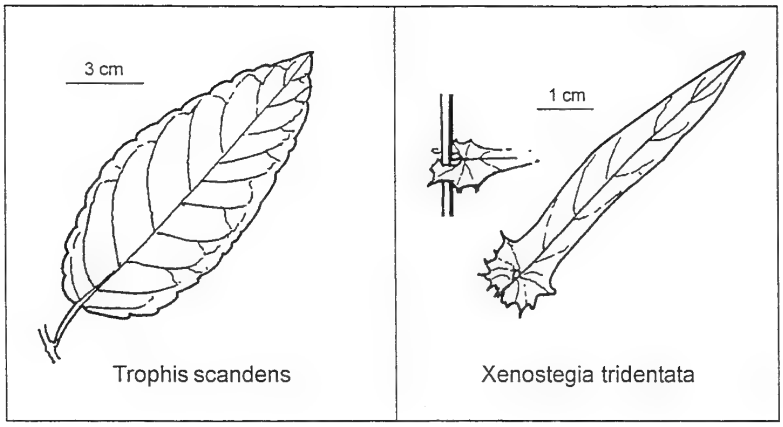
*Passiflora suberosa



Sarcostemma viminale



Trichosanthes holtzei


3 cm
Trophis scandens
1 cm
Xenostegia tridentata

GROUP 28

Vine, alternate simple leaves, greater than 1 main longitudinal vein

Adenia heterophylla	PASSIFLORACEAE	**Flagellaria indica**	FLAGELLARIACEAE
Aristolochia indica	ARISTOLOCHIACEAE	**Pachygone ovata**	MENISPERMACEAE
Cissus adnata	VITACEAE	**Piper macropiper**	PIPERACEAE
Cissus reniformis	VITACEAE	**Smilax australis**	SMILACACEAE
***Dioscorea alata**	DIOSCOREACEAE	**Stephania japonica**	MENISPERMACEAE
Dioscorea bulbifera	DIOSCOREACEAE	**Tinospora smilacina**	MENISPERMACEAE
Dioscorea transversa	DIOSCOREACEAE		

1. Leaves stem clasping, with tendrils on tips of leaves ..... **Flagellaria indica**
1. Leaves not stem clasping, no tendrils on leaf tips **2**

2.(1) Leaves peltate ..... **Stephania japonica**
2. Leaves not peltate **3**

3.(2) Prominent basal glands at junction of petiole and base of the blade ..... **Adenia heterophylla**
3. No glands present **4**

4.(3) Plants with tendrils **5**
4. Plants without tendrils **7**

5.(4) Tendrils attached near base of petiole ..... **Smilax australis**
5. Tendrils on opposite side of stem to leaves **6**

6.(5) Veins of the lower surface of leaves hairy ..... **Cissus adnata**
6. Leaves glabrous ..... **Cissus reniformis**

7.(4) Stems rooting at nodes, roots used as attachment for climbing ..... **Piper macropiper**
7. Stems not rooting at nodes, twining for attachment **8**

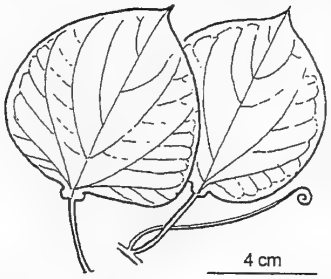
8.(7) Leaves hairy ..... **Pachygone ovata**
8. Leaves glabrous **9**

9.(8) At least 1 vein on each side of midrib reaching apex **10**
9. Veins on side or midrib reaching 1/2 to 3/4 of the way to apex **12**

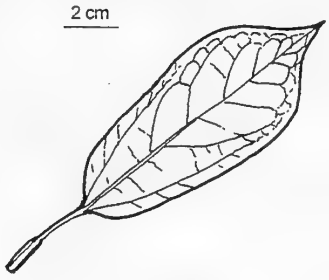
10.(9) Stem with 4 wings ..... ***Dioscorea alata**
10. Stem sometimes ribbed, but not winged **11**

11.(10) Base of petiole with wing slightly clasping stem ..... **Dioscorea bulbifera**
11. Petiole base not winged ..... **Dioscorea transversa**

12.(9) Leaves deltoid shaped, broadest in basal 1/3 ..... **Tinospora smilacina**
12. Leaf broadest in apical 1/3 ..... **Aristolochia indica**

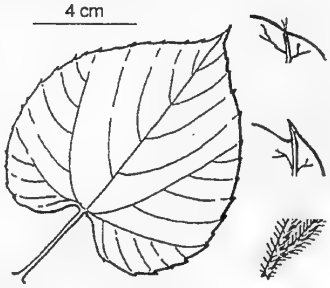


Adenia heterophylla

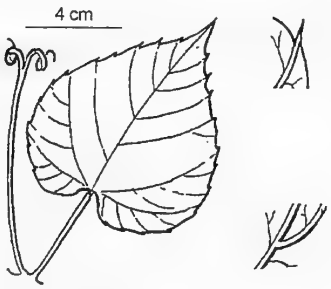


Found only at Channel Island.

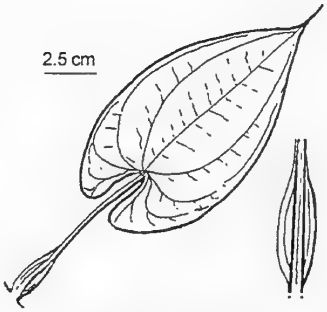
Aristolochia indica



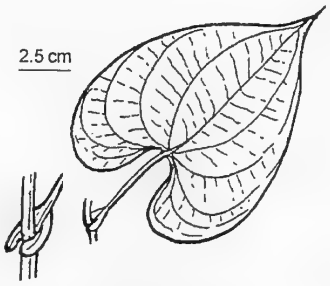
Cissus adnata



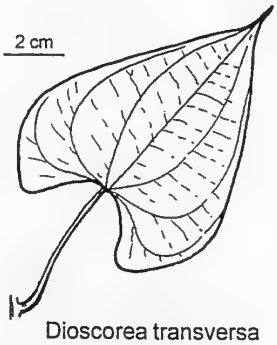
Cissus reniformis



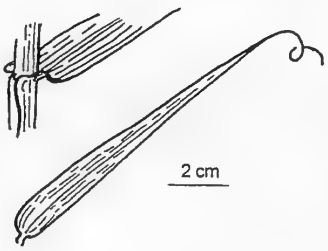
*Dioscorea alata
(Purple Yam)



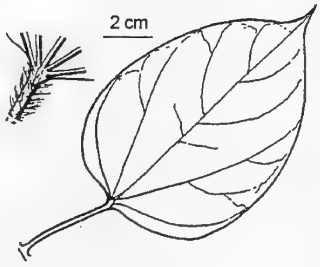
Dioscorea bulbifera
(Cheeky Yam)



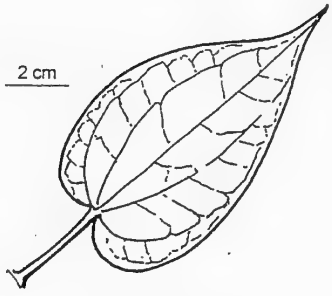
Dioscorea transversa
(Long Yam)



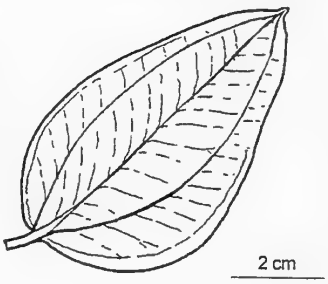
Flagellaria indica
(Bamboo Vine)



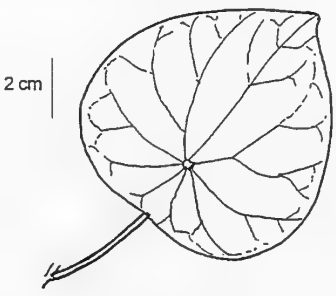
Pachygone ovata



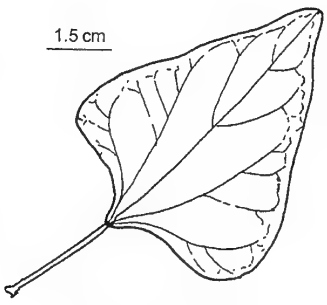
Piper macropiper
(Bush Pepper Vine)



Smilax australis



Stephania japonica



Tinospora smilacina
(Snake Vine)

GROUP 29

Vine, alternate simple leaves with only 1 main longitudinal vein

Adenia heterophylla	PASSIFLORACEAE	**Ipomoea pes-caprae**	CONVOLVULACEAE
***Antigonon leptopus**	VERBENACEAE	***Ipomoea triloba**	CONVOLVULACEAE
Aristolochia indica	ARISTOLOCHIACEAE	**Jacquemontia paniculata**	CONVOLVULACEAE
Cansjera leptostachya	OPILIACEAE	**Jasminum molle**	OLEACEAE
Capparis sepiaria	CAPPARACEAE	**Olax imbricata**	OLEACEAE
Cissus adnata	VITACEAE	**Opilia amentacea**	OPILIACEAE
Cyathostemma glabrum	ANNONACEAE	**Pisonia aculeata**	NYCTAGINACEAE
Embelia curvinervia	MYRSINACEAE	**Protasparagus racemosus**	LILIACEAE
Epipremnum amplissimum	ARACEAE	**Stictocardia tiliifolia**	CONVOLVULACEAE
Erycibe D25568	CONVOLVULACEAE	**Trophis scandens**	MORACEAE
Ipomoea abrupta	CONVOLVULACEAE	**Uvaria holtzei**	ANNONACEAE
Ipomoea macrantha	CONVOLVULACEAE		

1. Majority of leaves emarginate **2**
1. Majority of leaves not emarginate **3**

2.(1) No milky sap present, plant often with thorns ..... **Capparis sepiaria**
2. Milky sap present, plant never with thorns ..... **Ipomoea pes-caprae**

3.(1) Stems with thorns **4**
3. Stems without thorns **5**

4.(3) Leaves (cladodes) linear ..... **Protasparagus racemosus**
4. Leaves not linear ..... **Pisonia aculeata**

5.(3) Petiole sheathing the stem in young growth, plant with no tendrils, often rooting at nodes ..... **Epipremnum amplissimum**
5. Petiole not sheathing the stem, plant may have tendrils **6**

6.(5) Plants with tendrils **7**
6. Plants without tendrils **9**

7.(6) Plant with a pair of glands at junction of blade and petiole ..... **Adenia heterophylla**
7. Plant with no glands **8**

8.(7) Vein tips projecting out from the leaf margin, forming small hair like spines ..... **Cissus adnata**
8. Veins not as above ..... ***Antigonon leptopus**

9.(6) Milky sap present when a twig is broken **10**
9. Milky sap not present **12**

10.(9) Base of leaves distinctly cordate **11**
10. Base of leaves not, or only slightly cordate ..... **Trophis scandens**

11.(10) Leaves not lobed; with 2 purple spots on under surface of leaves where blade joins petiole ..... **Ipomoea macrantha**
11. Leaves usually lobed; no purple spots present ..... ***Ipomoea triloba**

12.(9) Petiole with joint near base ..... **Jasminum molle**
12. Petiole not jointed **13**

13.(12) Both surfaces of leaves with scattered orange vesicular glands, more numerous near blade margins ..... **Embelia curvinervia**
13. Surface of leaves without vesicular glands **14**

14.(13) Petioles grooved on upper surface, indumentum rust coloured with fine appressed hairs, bark mottled to light grey in colour (never dark grey to black) ..... **Erycibe D25568**
14. Not as above **15**

15.(14) Petioles less than 10mm long **16**
15. Petioles greater than 15mm long **20**

16.(15) Blade tapering along petiole greater than 2mm long; forming a pair of wings where the petiole joins the blade **17**
16. Blade not as above **18**

17.(16) Glabrous on underside of leaf and petiole ..... **Opilia amentacea**
17. Always some hairs on underside of leaf or petiole ..... **Cansjera leptostachya**

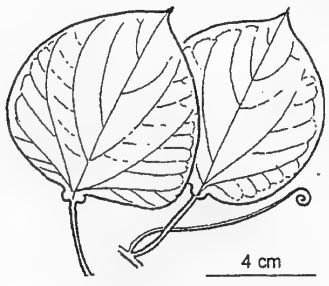
18.(16) Upper mid-rib hairy ..... **Uvaria holtzei**
18. Upper mid-rib glabrous; sometimes hairy near petiole only **19**

19.(18) Petiole grooved, not winged, base of blade rounded to slightly cordate ..... **Cyathostemma glabrum**
19. Petiole grooved and winged, base of blade rounded but forming a slight wing on either side of the petiole ca. 2mm long ..... **Olax imbricata**

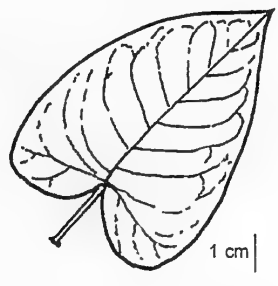
20.(15) Leaves hairy; hairs 3 branched when seen with hand lens ..... **Jacquemontia paniculata**
20. Leaves glabrous or with simple hairs, not 3 branched **21**

21.(20) Blade with less than 6 main lateral veins on either side of the mid-vein, base truncate: shape oblanceolate ..... **Aristolochia indica**
21. Blade with greater than 5 main lateral veins on either side of the mid-vein, base cordate to rounded **22**

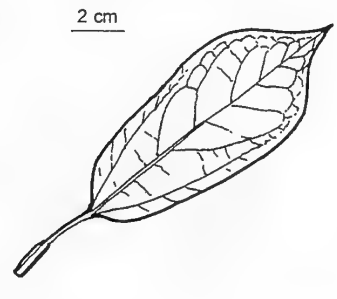
22.(21) Petiole hairy, glandless or minute glands at top of petiole. ..... **Stictocardia tiliifolia**
22. Petiole glabrous or with sparse hairs, obvious glands at top of petiole near point of leaf attachment ..... **Ipomoea abrupta**



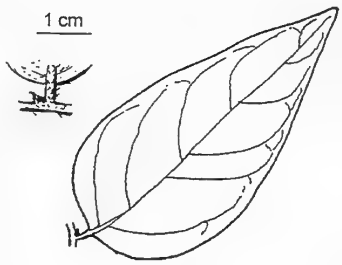
Adenia heterophylla



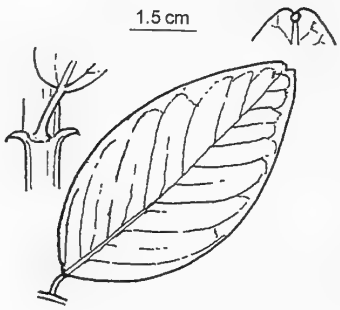
*Antigonon leptopus



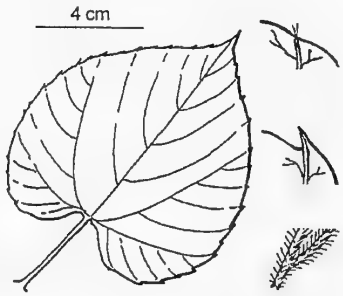
Aristolochia indica



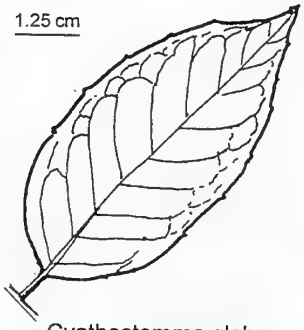
Cansjera leptostachya



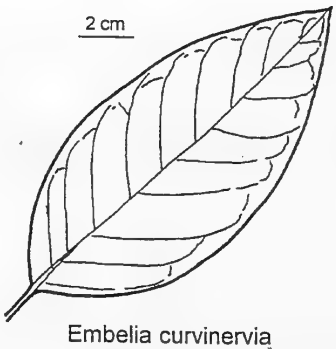
Capparis sepiaria



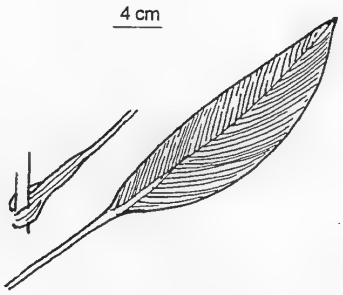
Cissus adnata



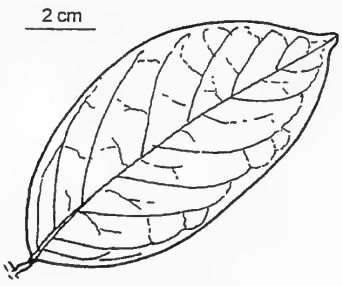
Cyathostemma glabrum



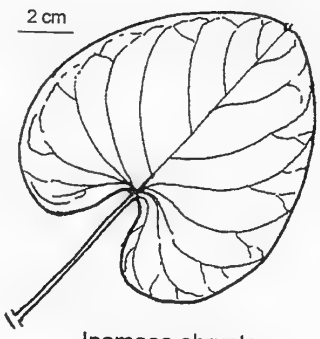
Embelia curvinervia



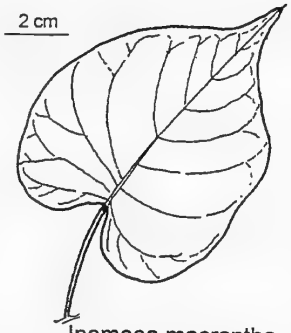
Epipremnum amplissimum



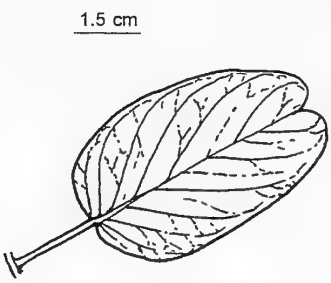
Erycibe D25568



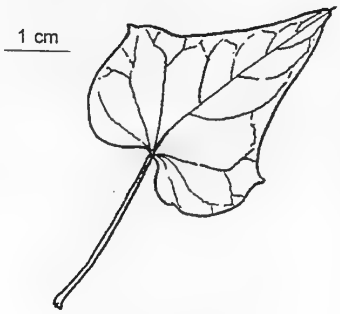
Ipomoea abrupta
(Round Yam)



Ipomoea macrantha



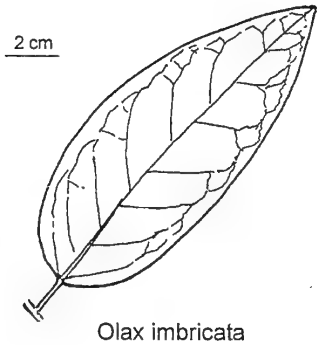
Ipomoea pes-caprae



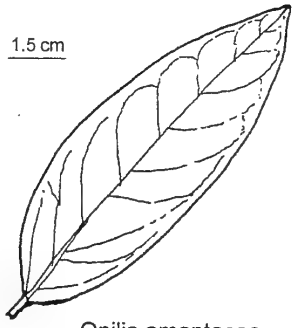
*Ipomoea triloba

Jacquemontia paniculata

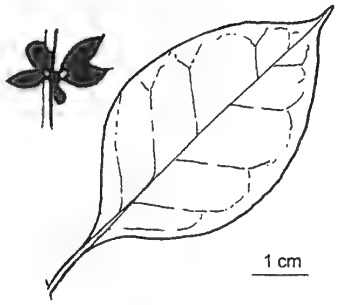
Jasminum molle



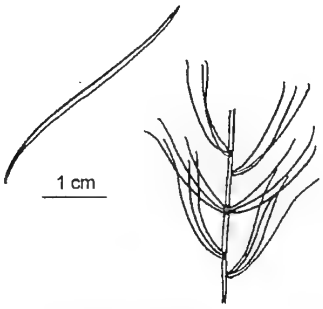
Olax imbricata



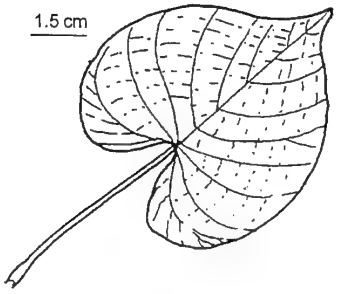
Opilia amentacea



Pisonia aculeata

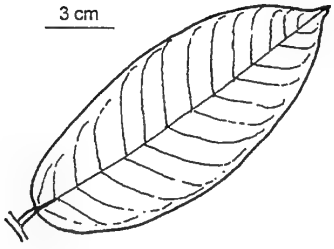


Protasparagus racemosus
(Asparagus Vine)



Stictocardia tiliifolia

Trophis scandens



Uvaria holtzei

REFERENCES

Dunlop C.R., Leach G.J., Cowie I.D., Flora of the Darwin Region Vol. 2, Northern Territory Botanical Bulletin No. 20. Conservation Commission of the Northern Territory (1995).

Hyland B.P.M., Whiffin T., Australian Tropical Rain Forest Trees an interactive identification system Vol. 2: CSRIO Australia (1993).

Wheeler J.R., Rye B.L., Koch B.L., Wilson A.J.G., Flora of the Kimberley Region, Department of Conservation and Land Management (1992).

Wightman G.M., Andrews M., Plants of Northern Territory Monsoon Vine Forests, Conservation Commission of the Northern Territory (1989).

Flora of Australia Vol. 48, Ferns, Gymnosperms and Allied Groups: Melbourne ABRS/CSRIO Australia (1998).

Forster P.I., Marsdenia, Flora of Australia 28: 245-267 (1996).

Forster P.I., Williams J.B., Alstonia, Flora of Australia 28: 118-122 (1996).

Chew W.L., MORACEAE, Flora of Australia 3: 15-68 (1989).

PLANTS OCCASIONALLY FOUND IN THE MONSOON RAINFORESTS OF THE AREA COVERED BY THE KEY BUT NOT INCLUDED IN KEY

*Ageratum conyzoides
*Capsicum annuum
*Moringa oleifera
*Pennisetum polystachion
*Polylthia longifolia (illustrated group 24)
*Triumfetta pentandra
Acacia difficilis
Acacia lamprocarpa
Acacia latescens
Alstonia spectabilis
Ammannia baccifera
Boerhavia spp.
Brachychiton megaphyllus
Brunoniella australis
Callitris intratropica
Cheilanthes spp.
Commelina ensifolia
Corymbia bella
Corymbia polycarpa
Cycas maconochiei
Dendrobium canaliculatum
Desmodium gangeticum
Desmodium heterocarpon
Dicliptera spp.
Diospyros humilis
Eriachne pallescens
Eucalyptus alba
Eucalyptus tetrodonta
Gronophyllum ramsayi
Livistona humilis
Melaleuca argentea
Phyllanthus ciccoides
Physalis minima
Plectranthus scutellarioides
Pluchea indica
Sarcolobus hullsii
Scleria ciliaris
Vernonia patula

Aquatics

Blyxa aubertii
Aponogeton vanbruggenii

CURRENT NAMES	SYNONYMS & MISAPPLIED NAMES
Aidia racemosa	A.cochinchinensis
Auranticarpa melanosperma	Pittosporum melanospermum
Bridelia tomentosa	Briedelia tomentosa
*Centrosema molle	*C.pubescens
*Crateva adansonii ssp. axillaris	C.religiosa
Cyclophyllum schultzii	Canthium schultzii, C.lucidim
Drypetes deplanchei	D.lasiogyna
Dysoxylum acutangulum	D.oppositifolium
Epipremnum amplissimum	Rhaphidophora australasica
Ficus brachypoda	F.platypoda
Gymnanthera oblonga	G.nitida
*Grewia asiatica	G.multiflora
Ixora timorensis	I.klanderiana
Leptospermum madidum	L.longifolium
Lysiphyllum binatum	Bauhinia binata
Marsdenia geminata	Gymnema geminata
Melastoma malabathricum	M.affine, M.polyanthum
Melicope elleryana	Euodia elleryana
Omalanthus novo-guineensis	Homalanthus novo-guineensis
Pavetta brownii	Ixora tomentosa
Pleomele angustifolia	Dracaena angustifolia
Pouteria richardii	Planchonella xerocarpa
Ptychosperma macarthurii	P.bleeseri
Sarcostemma viminale	S.australe
Scaevola taccada	S.sericea
Senna surattensis	Cassia surattensis
Stenocarpus acaciodes	S.cunninghamii
Tabernaemontana orientalis	Ervatamia orientalis, E.pubescens
Terminalia microcarpa	T.sericocarpa
Terminalia volucris	T.oblongata subsp. volucris
Trema tomentosa	T.aspera
Trophis scandens	Malasia scandens
Xylocarpus moluccensis	X.australasica, X.mekongensis

INDEX TO SPECIES

(Numbers indicate group(s) the species occurs in)